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DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON ON ST. LUKE'S DAY, 1916.

BY

SIR THOMAS BARLOW, Bt., K.C.V.O., M.D., F.R.S.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS.

HARVEY, THE MAN AND THE PHYSICIAN.

Sir Thomas Barlow prefaced his oration by a reference to the chief benefactors of the College: Linacre, the first president, in whose house in Knightrider Street the first meetings were held; Dr. John Caius; Dr. Richard Caldwell, president in 1570, who, jointly with Lord Lumley, endowed the Lumleian lectureship; Dr. William Gilbert, pioneer in the study of magnetism, and president in 1600; Dr. Theodore Gouiston, one of Harvey's younger contemporaries, who founded the lectureship which bears his name; Sir Theodore de Mayerne, another of Harvey's contemporaries; Dr. Baldwin Hamey Junior, also a contemporary of Harvey, a munificent benefactor of the College, who presented to it the buildings in Amen Court, and contributed to the rebuilding in Warwick Lane after the fire in 1666; the Marquis of Dorchester, an honorary Fellow, a student of physic and anatomy, who had probably gained Harvey's regard in Oxford; and Dr. Croone, one of the original Fellows of the Royal Society, to whom the College owed many valuable endowments. Finally he announced that the offer of Mrs. Eliza Streatfeild, made last June upon the advice of Sir John Tweedy to the two Royal Colleges of a sum of money for the purpose of endowment of research had been accepted, and that the deed of endowment provided for the transfer of £10,000 2½ per cent. annuities, to be known as the Streatfeild Research Fund, the interest to be applied to the promotion of research in medicine and surgery.

Turning then to the life and work of Harvey himself, Sir Thomas Barlow said: We know that the young Harvey was a pupil at the King's School, Canterbury, from the age of 10 to 15, where we may well assume that he gained the foundations of that classical knowledge which stood him in such good stead throughout his life. It was there probably that he made his first acquaintance with Virgil, whose poetry fascinated him in his later life; is it possible that he may even have begun to read Aristotle, whose influence over him was probably greater than that of any other writer, ancient or modern?

But were there no other studies than the classics which laid hold of young Harvey in his schoolboy days?

Dr. Venn, the learned President of Caius College, Cambridge, has drawn my attention to the regulations of the scholarship which Harvey obtained and which enabled him to go from King's School, Canterbury, to Caius College for six years. It was founded in 1571 by Matthew Parker, Archbishop of Canterbury, who was an intimate friend of Dr. Caius, and it is not unlikely that Caius influenced Parker in framing the conditions under which it was given. The most interesting of these is the enactment that at the university the scholar shall be educated first in subjects that pertain to or are serviceable to medicine and then in subjects which actually constitute medicine itself. Such a regulation for a medical scholarship is very remarkable and Dr. Venn considers unique at that time.

Let us consider for a moment its bearing upon Harvey and his predilections. It is not unreasonable to assume that he had already determined to become a doctor. Are we justified in any further speculations?

We know that throughout his later life Harvey was not only devoted to comparative anatomy, but that he was a keen naturalist. Dr. Norman Moore points out that in Harvey's *Prelectiones* there are references to the anatomy of no less than eighty animals. His book on generation is a mine of observations on natural history. In his Continental travel with the Duke of Lennox he complains bitterly that there was scarcely a dog, crow, kite, raven, or any bird or anything to anatomize; and when he was travelling with Lord Arundel in Germany, on the testimony of Hollar the artist, he made frequent excursions in the woods, making observations on strange trees, plants, earths, and naturals, and caused some anxiety to Lord Arundel lest he should be waylaid or murdered.

This intense lifelong devotion to natural history is usually an inborn quality, and it is by no means unlikely that in Harvey's schoolboy days it was this strong predilection that justified the authorities in nominating him to what was practically a medical scholarship. Harvey's first term at Cambridge began in May, 1593, when we are told he was admitted to the scholars' table at Caius College. Dr. Caius had been gathered to his fathers twenty years before. Dr. Legge, whom he had appointed as his successor, was of Caius' way of thinking in his Roman proclivities, and there was a stormy time in the college for a while. There is no indication that Harvey was drawn into this conflict, and it may have quieted down when he entered the college.

His tutor and surety was George Estey, who seems to have been a worthy parson and was appointed Hebrew lecturer the year after Harvey's entrance; but Harvey never refers to him.

Although Caius College had a medical reputation we find rather meagre evidence of systematic instruction in medical subjects, and this in spite of Dr. Caius having laid down certain definite plans for its maintenance. He had obtained a licence for the dissection of two bodies annually in the winter and for their decent burial. The church registers give evidence that bodies, chiefly of prisoners, were dissected. Demonstrations were given.

Dr. Venn, by reference to the Exiit Book and the Computus Book of the college, which give detailed entries respectively of the students' absences and the charges for their commons, has been so good as to furnish me with some interesting and suggestive information about Harvey's time at Cambridge. As these entries have an important bearing on the question of when Harvey left Cambridge and when he entered Padua I bespeak consideration of them. It is commonly stated that Harvey took his B.A. degree in 1597 and that he left Cambridge in 1598 and entered Padua in that same year. I think you will see that this is incorrect. He entered Padua in 1600.

The Exiit Book, which was made up half-yearly, shows that during the first three years there were no absences. This may mean that Harvey did not leave the college at all during this period or for such brief intervals as did not involve any deduction from the stipend of his scholarship. We have to remember that one month's absence for holiday was allowed by statute, and that could be taken at any time. The Computus or Account Book is consistent, for it shows that Harvey's stipend from his scholarship was very nearly sufficient to pay the cost of his commons.

But from 1596 to 1599 the Exiit Book shows repeated absences. It is clear from the dates that Harvey was away from college not less than sixteen months. Some of his absences were of two months' duration or more, and some of them a few days up to a fortnight, and from his own letter in Michaelmas, 1599, he evidently required at times a long period for convalescence. The accounts show that he only received a stipend for one quarter between Michaelmas, 1599, and Lady Day, 1600—so that his scholarship lapsed at Christmas, 1599.

We know that, like Sydenham, Harvey suffered at various times severely from gout. He complained very little of his ailments, and somewhere speaks of the help which his pathological and anatomical investigations gave him by rousing keen interest and making him forget his pains. I suggest that the absences during the last half of Harvey's time at Cambridge were probably due to attacks of gout.

Harvey took his Arts degree in 1597, but there are no details obtainable concerning it, nor about his work at Cambridge after he had taken his degree. It is significant that there are no references in Harvey's works to his Cambridge life. His poor health and the limited facilities for anatomical study may have left this period as one which he would gladly pass by. There is a categorical statement in Aubrey's *Memoirs* that Harvey bequeathed the house in which he was born in Folkestone to Caius College, Cambridge, in spite of the protest of his brother Eliab. This has been quoted again and again, but, like many of Aubrey's statements, it is untrue. Harvey bequeathed nothing to Caius College.

We may take it, then, that following in the footsteps of Linacre and Caius and of other fellows of this college, Harvey went, in the year 1600, to Padua, and not in 1598. Now it is interesting to mention that an examination of the archives of Padua, made by the university authorities at Mr. D'Arcy Power's request, has failed to reveal any mention of Harvey before 1600. To quote from Mr. Power's admirable life of Harvey, there are entries which show that at the usual time of election—that is to say, on August 1st in the years 1600, 1601, and 1602—he was elected a member of the Council of the English nation in the Jurist University of Padua. This I take to have been a sort of Students' Association.

Those of you who have been to Padua will remember, in the university courtyard, the host of memorial tablets giving the arms and name and the nationality of centuries of alumni. Two in the lower cloister are alleged to pertain to Harvey. One of them is decayed and the inscription erased, but the other is well preserved, is undoubted, and gives 1600 as the date. This agrees with the data which I have given already.

The two most interesting things at the University of Padua are the great cathedra or wooden pulpit from which Galileo addressed his class in Harvey's time, and the anatomical theatre where Fabricius demonstrated his dissections to Harvey and his fellow students. They are not far apart.

There is a capital picture of the anatomical theatre in the charming book on Harvey written by Dr. Curtis of Columbia University and published last year. Dr. Curtis points out that the tiers are really standing places with rails in front to lean upon, which rise at a very steep angle from the central pit. The arrangement now in vogue, in fact, more resembles that in our hospitals, in which students stand and look down at the operations or at *post-mortem* demonstrations, than an ordinary anatomical lecture theatre. Dr. Curtis makes the suggestive remark that "the place looks fit to have been a nursery of object teachers, for it is too small to hold a pompous cathedra, and the veteran to whose Latin the young Englishman listened must have stood directly beside the dead body."

Before we follow Harvey's further career, let us pause for a moment to consider the intellectual atmosphere of Europe when he began his course at Padua.

There had been the great revival of classical learning, followed not only by the Reformation and the consolidation of the Protestant states, but by the counter Reformation in the old Catholic countries. And there was a great ferment of free inquiry on philosophy, on the principles of government, on the polity of nations, the rights of the humbler folk, and the conduct of life. The creation and the dissemination also of our greatest literature was then in progress in our own country.

England, in spite of its insularity, always, I believe, the most tolerant and open-minded of European countries, welcomed to permanent posts many learned men from other lands. Continental travel attracted many of our countrymen, and English scholars sought illumination in those days far more in Italy than in Germany or even in France.

It concerns us most of all to ask what branch of natural science chiefly attracted educated men. I have already referred to our president, William Gilbert, the inspirer of Galileo. Galileo had been lecturing six years at Padua before Harvey went there. But we must bear in mind that, though he had many ardent disciples both in Padua and Florence, yet he had to encounter formidable opposition as well as persecution, and both his discoveries and his doctrines were a long time in gaining acceptance. Harvey himself seems always somewhat timid about the findings of astronomy, and regards them as unproveable. Astrology was still widely accepted.

Robert Boyle was not born till 1627, and the work of Torricelli and of Pascal was yet to come. The Royal Society held a few informal meetings in 1645, but did not receive its charter till 1662.

Thus, although at the end of Harvey's life physics had made great advances, at the time of which we now speak —namely, 1600—it was by no means a popular science. The chemistry of that time was dominated by unverifiable hypotheses, and it is quite what we should have expected that Harvey, according to Aubrey's statement, undervalued its exponents, and spoke against it. It was much too vague and nebulous to suit Harvey.

We have, then, to turn from the physical to the biological sciences. The subject which not only engaged the energies of some of the greatest men of that generation, but also attracted the interest of educated people, was human anatomy. Italy was the Mecca of anatomical students. At Padua itself there was a great tradition, for Vesalius, Falloppius, and Fabricius formed a brilliant succession of teachers. Dr. Caius, as we know, had not only studied with Vesalius, but had lived in the same house with him.

But with regard to human anatomy as a subject of interest amongst educated people, let me quote a sentence or two from Evelyn's *Diary*, though they relate to a time a little later than this particular date. During the troublous years immediately preceding the Commonwealth, Evelyn travelled on the Continent. Whilst at Padua he took out a short course of anatomy and physic. During a month he tells us that he saw a man, a woman and a child dissected by Veslingius, the anatomical professor, with all the manual operations of the chirurgeon on the human body. He also purchased from Veslingius's assistant some rare tables of veins and nerves, and gave orders for a third to be prepared of the lungs, liver, and nervi sexti par, and the gastric veins, which he sent to England and ultimately presented to the Royal Society. But before that presentation was actually made we find that Sir Charles Scarburgh, who succeeded Harvey as Lumleian lecturer, induced Evelyn to lend them for a time to our College for his own lectures. Scarburgh had been unable to induce Evelyn to present them to our College. They were given by the Royal Society to the British Museum and by the British Museum to the Hunterian Collection, and are now in the Royal College of Surgeons Museum. These tables are similar to those six preparations which were given to this College in 1823 by the Earl of Winchelsea. They were said to have been inherited from Harvey, and to have been used by Harvey at his lectures. That, I think, is more than doubtful.*

Thomas Hobbes, the philosopher, dissected in Paris along with his friend the many-sided physician William Petty, and at a later period Robert Boyle also dissected in Ireland under the same friendly guidance.

Descartes studied human anatomy, dissected many brains, and repeated Harvey's experiments on the circulation for himself. The Port Royalists, following Descartes's lead, repeated many vivisection experiments on the circulation. Fra Paolo Sarpi, the ecclesiastical statesman and adviser of the Venetian Republic, seems to have found time and opportunity to study anatomy to considerable purpose and even to make observations on the valves in veins. He was probably in touch with Fabricius, and we know that Padua partly depended on Venice for some of its anatomical material.

Charles I took the greatest interest in anatomy and in the numerous demonstrations, not only on the circulation of the blood but on embryology, which Harvey gave him from time to time.

But it is important to note that although the great Italian anatomists had made enormous strides in the study of structure their knowledge of function was lamentably small—in other words, physiology had not kept pace with anatomy. It has indeed been affirmed that physiology had not advanced since the time of Galen, and doubtless its inadequate progress was partly the consequence of the prevailing ignorance of physics and chemistry. But in the evolution of knowledge and of method the disproportionate study of human anatomy on its structural side must be credited with the development of observation, and so far it was a big step in the long and bitter struggle against the trammels of authority.

That was the beginning of a momentous epoch in the history of human knowledge when, on St. Luke's Day, 1600, a young Englishman, aged 22 years, rather under the average height, with raven hair, dark piercing eyes, rather sallow complexion, and with a keen, restless demeanour and rapid speech, enrolled himself amongst the pupils of the learned, laborious, and generous Fabricius. What was Harvey's exact attainment at this time in the

* I suggest for consideration whether these tables may have come into the Winchelsea family not through Harvey, but possibly through Sir John Finch (the son of Sir Heneage Finch) who was M.D. of Padua, and not only English Consul there, but Syndic of the University. He was admitted an extraordinary fellow of our College in 1660, and seems to have had for an anatomical pupil one Marchetti, who made 'tables of veins, nerves, and arteries, five times more exact than are described in any author." *Vide* Dr. Edward Browne's letter to Sir Thomas Browne. *Sir Thomas Browne's Works*, vol. i, p. 91.

details of anatomy and the technique of dissection we have no means of knowing. But we have reason to believe that even then he was by no means ill equipped with ancient learning; we know that he was a keen and accurate observer and an enthusiastic naturalist, and that he had a mind reflective as to the causes and relations of things, fertile in recognizing resemblances, and, above all, ready in making working hypotheses and in devising experiments which would more or less verify those hypotheses. It was in these latter qualities that Harvey's supremacy over his teachers and predecessors ultimately became so manifest. The addition of experiment to observation was vital and far reaching. The exact relationship between teacher and pupil we do not know, but it must have been very intimate, as proved by all Harvey's references to Fabricius, not only in respect to the organs of circulation but also in respect to his observations and speculations on generation. These references are not merely respectful but reverent.

From the time when Vesalius described the valves of the heart the Italian anatomists had been keenly exercised on the valves in various parts of the vascular system, and Fabricius's discovery of the valves of the veins was as far back as 1574. But the scientific use of the imagination seems to have been dormant with these clever observers, and they were singularly inept in explaining the mechanism of the valves. Sir William Osler suggests that it was reflection on the mechanism of the valves of the veins which at this early period of his career set Harvey on the right track in his great discovery, and there is a remark of Harvey's friend Robert Boyle which is not inconsistent with that suggestion. Boyle says that Harvey's observations on "contrivances similar to the valves used in hydraulic engines for preventing counter currents led to his discovery of the circulation of the blood." Whether Boyle's remark refers to the period of study at Padua or not, it is certain from the terms of his diploma in our possession that Harvey enormously impressed his teachers and examiners with his knowledge and ability.

Harvey returned home in 1602, and after his incorporation as Doctor of Medicine at Cambridge he came to our College and submitted himself to examination as a "candidate," which title in those days I take to have been equivalent to our present designation of member.

Dr. Norman Moore has found, by consulting the *Annals*, that Harvey was examined no less than four separate times between May, 1603, and August 4th, 1604, although he satisfied his examiners on each occasion. Moreover, of his contemporary candidates he was the last to be elected to the fellowship—namely, on May 16th, 1607, he being then 29. Whether in that early period of his connexion with this College he had any opponents we have no other means of ascertaining, but he seems to have had the support of the president, Dr. Atkins, when he applied for the post equivalent to what we should now call assistant physician at St. Bartholomew's Hospital, and especially that of Dr. Wilkinson, whom he assisted and after his death succeeded.

In the literature about Harvey there is nothing more interesting than Sir James Paget's records, drawn from the *Annals* of St. Bartholomew's Hospital. The relations between the governors and Harvey are altogether honourable and creditable to both sides. I will only refer to the revised hospital regulations submitted by Harvey in 1633 and adopted. These rules show that in general medical policy Harvey was a strong conservative, and that he stoutly maintained the then existing supremacy of physicians over surgeons. The surgeon was not only obliged to consult the physician in all difficult cases, and whenever inward physic was required, but he was not to be allowed to perform any major operation without the approbation and the direction of the physician. The surgeon was not only forbidden to give inward physic, but was required to declare to the physician what external remedies he applied in any given case. The surgeon had to attend the physician in his weekly consultations in the great hall to which the patients were brought, and where both matron and apothecary attended. In those days the surgeons had to visit their patients in the wards, and the physician as a rule only went to the wards when his patients could not be brought to the hall where most of the medical work was done.

During the thirty-six years, with certain intervals, that Harvey was connected with St. Bartholomew's Hospital he must have seen a great deal of disease amongst the London poor. But his post of Court physician, first to James I and subsequently to Charles I, led to his having a considerable *clientèle* amongst the well-to-do. We know that some of the most eminent men of the time were his patients. Aubrey disparages his "therapeutic way," and maintains that although he was a great anatomist he was not much of a physician, and that after his great discovery was fully announced his practice waned. Aubrey is a very inaccurate person, but this statement may have some truth in it. It is interesting to realize that the philistine is the same in every generation in his estimates of the merits of medical practitioners as in other estimates. If a doctor proves his greatness by some purely scientific discovery which has no immediate practical application, if he distinguishes himself in literature or art, the philistine shrugs his shoulders and says that is all very well, but that such a man should be a good practitioner is impossible. Let us, then, consider some of the evidences derived from Harvey's writings bearing on the subject of his clinical experience.

In his first disquisition to Riolanus, Harvey refers to his unpublished MS. on medical anatomy or anatomy in its relation to medicine. This MS., then in Harvey's possession, has, alas! been lost, but it may yet be found. But his own references to this MS. are very relevant to our inquiry. In alluding to its contents Harvey says he "desires to relate from the many dissections of the bodies of persons diseased, worn out by serious and strange affections, how and in what way the internal organs were changed in their situation, size, structure, figure, consistency, and other sensible qualities from their natural forms and appearances, and in what various and remarkable ways they were affected." I quote this long sentence because it embodies Harvey's ideal of the morbid anatomist and shows that he belonged to the true faith—namely, that the best physicians are first of all good morbid anatomists. In this letter his illustrations are, as might be expected, chiefly drawn from the diseases of the circulatory system; he gives interesting references to aneurysms, apoplexies, and calcified arteries. In more than one place he refers to the small radial pulse on the distal side of an aneurysm of the neck. He recognized that empyema might ulcerate into the lung and discharge through the bronchi.

In his work on generation, which contains many clinical illustrations, there is a careful analytical description of the case of Lord Montgomery's son, who had an exposed heart, left bare after a severe suppurating injury to the chest, and his report of the *post-mortem* examination of Thomas Parr is a sample of the thorough way in which he made his autopsies.

In his second letter to Riolanus he shows how wide was his acquaintance with local disturbances of circulation, which he had discussed at length in the lost Medical Observations. There was one disease common in his contemporaries, and of which he had abundant experience in his own person—namely, gout. Whether he was permanently crippled is, I think, doubtful, but that he suffered severe pain, especially in his lower limbs, is quite certain. Heberden sneers at the methods which Harvey adopted to relieve what we may probably regard as attacks of localized gouty hyperaemia. But Harvey's plan of plunging his feet into a pail of cold water seems to have been justified by the results, and Heberden has the candour to admit that he lived till he was over 80 and does not appear to have died from gout, but from old age. This mode of treatment shows not only Harvey's courage, but his independence of conventional dogmas. In our own times we have learnt that the local application of cold in febrile and hyperaemic states is not the dangerous thing it was once supposed to be.

In Harvey's *Prelectiones* there are many clinical observations introduced by way of illustration. In his valuable introduction Dr. Norman Moore points out that Harvey was "familiar with scarlatinal desquamation; he had noted the enlarged liver in those who died after long suppuration, and the shrunken liver in cirrhosis." "The varying appearances of gall stones and the common shape of large renal calculi were well known to him, and he describes pericarditis and its symptoms from his own observation." It is quite true that Harvey says very little about drugs in any of his memoirs. That is not exceptional in physicians who are distinguished as morbid

anatomists. One would like to believe that when the apothecaries of that time disparaged his "bills" (as prescriptions were then called), they may have been too short and too simple to please the apothecaries. There is a report on the case of Prince Maurice when Harvey was with the King at Oxford, in which it is stated about Harvey and his colleague, Edmund Smith, that the "doctors do resolve to give very little physic, only a regular dyett and cordyall antidotes." It is significantly added that Prince Maurice did well.

But I think I have noticed occasionally that when a morbid anatomist ventures into the realm of therapeutics he may show an immense confidence in some particular preparation, and it is not altogether an exceptional incident that in a letter to his friend Hamey, which we possess, concerning the ailment of a poor woman in whom they were both interested, Harvey extolled the therapeutic value of the heel bone of the deer. Perhaps he had found it a useful way of administering phosphate of lime. But whether he gave many drugs or few, Harvey had confidence in the relief or removal of pain by "the detraction of blood, the application of cupping glasses, or the compression of an artery which leads to a part." He also used cupping glasses for the relief of asthma.

In his work on generation Harvey shows practical acquaintance with both midwifery and gynaecology. He recognized the dangers of retained secretions in the body of the uterus and showed courage and decision in dilating the cervix, and in some cases in the employment of intra-uterine injections. He had carefully studied cancer of the uterus, and I commend to my gynaecological brethren a remark which shows Harvey's shrewdness. Speaking of certain uterine troubles he says: "Women are peculiarly liable to these accidents, especially those among them who lead a luxurious life or whose health is naturally weak and who easily fall into disorders. Countrywomen and those accustomed to a life of labour do not become dangerously ill on such small grounds."

But Harvey was not unacquainted with the surgery of his day. In this same mine of clinical experience—the work on generation—will be found reference to cases of large sarcoceles, the treatment of which he had initiated by tying the afferent artery so as to limit the blood supply. He subsequently removed the tumour by extirpation with the knife or the searing iron.

Perhaps Harvey's conservatism as regards the relative status in his time of physicians and surgeons and his daring to have an independent opinion on surgical cases and even performing some operations (for in his will he left his surgical instruments to his friend Scarburgh) may have roused the antipathy of the Barbers' and Surgeons' Company. At all events, they endeavoured to convict him of ill practice in the case of an alleged fracture of the skull. There was no allegation of operation on his part, but only of erroneous opinion. But I do not gather that the Barbers' and Surgeons' Company supported their condemnation by any *post-mortem* evidence. I think we may rest content that our Harvey, who was universally admitted to be a great anatomist and naturalist, was also an experienced pathologist, a learned physician, and that he had the qualifications of a good all-round practitioner.

Harvey's Court duties were by no means strictly limited to medicine. As physician to the Court he was instructed to take two long and important Continental journeys. The first of these was in 1630, when he accompanied the young Duke of Lennox on a rather prolonged tour in which he was obliged to dodge the plague on several occasions and was greatly impressed with the impoverishment of the countries through which they travelled. The second Continental journey made at the Royal command was in 1636 when Harvey accompanied Thomas Earl of Arundel, the Lord High Marshal, on an embassy to Vienna and Ratisbon which was mainly concerned with efforts to secure the restoration of the King's nephew, the young Prince Palatine, to his proper status. About three years ago I had the good fortune to secure for this College eleven of Harvey's letters referring to a painful episode of this particular journey. Harvey's writing is very hard to read. It is the writing of a man of terse expression and who had no time to waste. The contractions are appalling. These letters are not quite so difficult as the few others which are extant, and they show that when he took pains he could make a tolerable script as well as express himself forcibly. They were written to Harvey's friend, Basil Lord Feilding, the eldest son of Lord Denbigh. Feilding was English Ambassador at Venice, and, it would appear, had invited Harvey to visit him. Harvey looked forward to this visit with great delight. There exist in the Clarendon State Papers fairly complete reports of this embassy on the official side, forwarded by Lord Arundel and his staff. It may interest you to follow Harvey's steps on this journey. Lord Arundel's reports are addressed to Sir Francis Windebank, one of the Secretaries of State for Foreign Affairs. The first is from Utrecht, in which Arundel informs Windebank that he has left his son at Leyden suffering from a stomach attack, but under the care of Dr. Harvey. They soon rejoined the party, and we next hear from Arundel at Cologne, where he says he has been this evening "at the Jesuists' fair new church and college where they used me with all civility. I found in the college little Dr. Harvey who means to convert them."

I think it is more than likely that this polemic related, not to theology, but to Harvey's doctrine on the circulation, for at the next stage, Nuremberg, Harvey writes a very courteous letter to Dr. Hoffmann, in which he tries to disabuse his mind of certain misconceptions, and offers to give him a demonstration of the circulation. This letter is included in Harvey's published works, and shows that along with his scrupulous courtesy he could usefully blend a little elegant sarcasm, for he begs Hoffmann, if he will not come to a demonstration or investigate by his own dissection, that he will not vilipend the industry of others nor charge it to them as a crime; "do not derogate," he says, "from the faith of an honest man not altogether foolish nor insane who has had experience in such matters for a long series of years."

The first and second of Harvey's letters to Lord Feilding relating to this journey were written from Lintz, to which the ambassador's party had gone on leaving Nuremberg. Here the first meeting with the Emperor Ferdinand took place. Harvey says he accompanied the Emperor on some hunting excursions. He speaks of him as a pious, good man, desirous of all love, quietness, peace, and justice! He refers to the impoverishment of the country by the thirty years' war and to the licence and oppression and anarchy which prevailed in Germany. Nevertheless they had joined in a feast given by the Count of Milan, "the chief Major Domo of his Majestie where they drunk hard and had many expressions and many good wishes." There are ominous references to the plague and the fear of it.

The next move is to Vienna, where Harvey sees the Queen of Hungary and praises her two fine little babies. Then they go to Ratisbon, where they have to await the assemblage of the Diet of the German Empire, which somewhat shadowy and dilatory body will have to discuss the questions respecting the young Prince Palatine's claims. From the Clarendon State Papers we learn that everybody in Lord Arundel's mission was excessively tired by the long delay. Harvey seems to have been terribly bored, and to have besought Lord Arundel to let him go to Italy during the vacancy, as he styles the waiting time. In one of the Clarendon dispatches there is a reference to "honest little Harvey, whom the Earl is sending to Italy about some pictures for His Majesty." This opens up a very interesting little bypath upon which other correspondence of Lord Feilding's throws additional light. Lord Arundel, as we know, was one of the great English virtuosos of that day, and was the first to collect objects of art from Italy and elsewhere. His name is chiefly associated with the collection of Greek and Roman marbles which was ultimately secured for the University of Oxford by the mediatory efforts of John Evelyn. But he was a collector of pictures also. In some of the Feilding letters there are references to the pictures which at various times Feilding acquired for the King's collection, and the Marquis of Hamilton writes to Feilding on the same subject, in which he delicately hints that Lord Arundel might take the opportunity of feathering his own nest, and that he might even forestall Feilding in some of his bargains.

At all events, the invitation to Harvey to visit Lord Feilding at Venice may well have led to the extemporized mission which was entrusted to Harvey by Lord Arundel. But poor Harvey little dreamed of what was in store for him. He doubtless left Ratisbon in high spirits at his escape from the weary diplomatic tedium so trying to his active spirit. He was armed with visé to his passport and

commendatory letters, but when, having crossed the boundary of the Venetian territory, he arrived at Treviso, he writes to Lord Feilding that he was unjustly affronted, being stayed and commanded by the podestà to go into the lazaretto without any cause or suspicion alleged. It is clear that they were terribly and perhaps unreasonably afraid of the plague. Harvey produced his viséd passport and recommendations from the King of Great Britain, from the Emperor, and from Lord Arundel, but the podestà would not look at them. Harvey refused to go to the lazaretto for fear of the infected persons who had been sent there before, and elected to stay in the open fields. He scribbles his letter on the grass in the field, and begs Lord Feilding to procure his release with all expedition. He seems to have subsequently arranged to sleep in a poor open garden house and to lie upon straw, but was by force and threatening of muskets compelled to go into the lazaretto, into a very nasty room, where the vetturin and his two servants and saddles lay!

The podestà, probably as the result of Lord Feilding's complaint, in three days' time sent a coach offering to take Harvey back to the poor garden house (where he had been before). Harvey did not conceal his irritation, and indignantly refused to accept anything whatever from the town authorities, least of all a bed which he believed would have been an infected one, so he elects to sleep on straw. Subsequently the Senate of Venice sent him a message that he must stay where he was till further orders, without specifying the time. Meanwhile poor Harvey, having bad food and great exposure, had contracted sciatica. He seems to have been kept between a fortnight and three weeks, but we do not know the exact date or method of his release. He sent on his letters to Lord Feilding, and though he did not stay long in Venice he seems to have had a good time there, and then he went to Florence, where he enjoyed the hospitality of the Grand Duke, who lavished everything upon him that heart could wish.

Harvey's last letter to Lord Feilding was to announce his return to Ratisbon in November so as to be ready to accompany Lord Arundel on his return to England, his mission having turned out rather a fiasco. It has hitherto escaped notice, but I find in the Clarendon Papers a letter from Sir John Borough in which it is stated that they were aware at Ratisbon that Dr. Harvey had been kept in quarantine at Treviso, "being not as yet, for aught we hear, released." His return to Ratisbon may have been somewhat surprising. A perusal of Harvey's letters and of the State Papers gives us a poor opinion of the estimation in which Englishmen were held in Charles I's time in foreign lands, and we may be sure that Cromwell would not have brooked such scant consideration to any English subject during his rule.

Between the time of Harvey's leaving Florence and going back to Ratisbon we must, I think, intercalate his visit to Rome, where, under the hospitable roof of the English College, he dined with one who became a very staunch friend. This was Dr. Ent, who, in the evening of Harvey's life, secured for publication his work on generation. The alleged visit to Rome with Dr. Ent which Aubrey mentions has been shown by Dr. Munk to be one of his many inaccuracies. The joint visit was the one just mentioned; it was in October, 1636. Harvey was back in London at the end of the year. He doubtless made other visits to Italy, and probably to Padua.

As Court physician, Harvey accompanied the King for his Scottish coronation. It is eminently characteristic that the chief interest for Harvey was not the ceremony, nor the theological disputes, but his own visit to the Bass Rock in order to find out some points with regard to the solan goose, which then, as now, congregated on that island in great numbers. He probably also accompanied the King in his abortive warlike journey to Berwick in 1639, and perhaps again in 1640, but there do not appear to have been any important questions of natural history to be solved in those journeys, and I find no reference to them in Harvey's papers. The clouds were gathering for the Civil War, and Harvey's official association with the King rendered him persona ingrata not only to the Parliamentarians in the House of Commons, who tried to oust him from St. Bartholomew's Hospital, but to a mob who sacked and plundered his official lodgings in Whitehall. It is somewhat piquant and characteristic that Harvey, referring to this outrage, says the cause of his sorrow is that certain rapacious hands "stripped not only my house of its furniture, but what is subject of far greater regret with me my enemies abstracted from my museum the fruits of many years of toil, . . . whence it has come to pass that many observations, particularly on the generation of insects, have perished, with detriment, I venture to say, to the republic of letters." It has been assumed that Harvey's "Medical Observations" as well as some other papers were destroyed by this mob. But Sir George Paget has drawn attention to the fact that Harvey himself speaks of these same Medical Observations being in his possession at the time when he writes, many years afterwards, his first letter to Riolanus.

In regard to the historic incident of Harvey looking after the two young princes at the fringe of the battlefield of Edgehill, it is interesting to remember that his friend Lord Feilding had been removed from his ambassador's post at Venice and was fighting on the Parliamentary side, whilst the Earl of Denbigh (Lord Feilding's father) was fighting for the King. There must have been many of Harvey's friends on both sides of the great struggle, but it is noteworthy that throughout the four years, from 1642 to 1646, that Harvey was with the King at Oxford there is no evidence that he took any part in political affairs, and there is no report of any utterance of greater resentment than is expressed in the one just quoted concerning his natural-history collection.

Nothing daunted by the limitations of his surroundings at Oxford he goes to visit his friend Bathurst at Trinity College and conducts with him daily observations on the development of the hen's egg. He was incorporated a Doctor of Medicine of Oxford, and during the last year was appointed Warden of Merton College. His brief opening address to the fellows, appealing to them to cultivate harmonious friendship amongst themselves and pledging himself for the development of the welfare of the College, is quite in harmony with Harvey's subsequent utterances at the College of Physicians. One interesting experience at Merton was his welcome to Scarburgh, who had been expelled from his fellowship at Harvey's old college in Cambridge on account of his Royalist principles. Scarburgh seems to have been not unnaturally interested in the lively military expeditions around Oxford of Prince Rupert and his fellow officers. Harvey said to him, "Prithee leave off thy gunning and stay here and I will bring thee to practice." He probably recognized Scarburgh's mathematical abilities and foresaw a great future for him, and Scarburgh is said to have helped Harvey in some of his investigations.

In Clarendon's *History of the Rebellion* some of the most attractive pages are the character sketches of the chief men on both sides, and it is significant that Harvey finds no place. Indeed there is not a single mention of him in the whole of the work. Clarendon seems not to have concerned himself, in writing his history, with a single person who took no active political or military part in the great struggle. It seems remarkable in view of Harvey's long personal devotion to Charles I, in prosperous as well as in adverse days, that when the surrender came he left him, and it is doubtful if he ever saw him again. But in fairness we must remember that after the surrender Charles's movements up and down the country were not under his own control, and very shortly the access of particular adherents and attendants was regulated and Harvey may not have been permitted to join him even if it were desired. At all events, he retired a saddened man of 68 to the quiet and rest provided him by his relatives in London and its neighbourhood, and his rich and influential merchant brothers may well have secured him protection in his retirement.

It is probable that from 1602 onwards Harvey was working at his subject, and from 1609, when he was formally elected physician to St. Bartholomew's Hospital, he must have gradually acquired a reputation as an anatomist as well as a physician. In 1615, being then 37, he was appointed Lumleian lecturer to this College, a post which he held, with certain inevitable absences, until 1656, the year before he died. The *Prelectiones*, which bear the date of 1616, are really the lecture notes for the first anatomical course which he delivered. His introduction, with its detailed categories of anatomical study, is interesting as a logical academic statement, but the practical instructions which Harvey laid down for his own

guidance in method seem to me the last word as to the proper objects and limits of oral teaching and demonstration, and are a model to be utilized by every medical teacher of our own time. The special value of this MS., which deals chiefly with the viscera, is that we have here Harvey's first account of the circulation of the blood, the full exposition of which he gave in his printed book in 1628. For these twelve years Harvey had expounded his doctrines to our predecessors, and it is significant that from within this College there was no criticism or opposition to the full acceptance of those doctrines, with the solitary exception of one licentiate, a certain Dr. Primrose, who was rather an abject pupil and follower of Riolanus, the anatomical professor at Paris. Harvey demolished the master Riolanus in the two disquisitions addressed to him, and the pupil needs no further consideration.

I need not dwell on Harvey's masterpiece, so brief, so terse, and so convincing, a model for all time of inductive reasoning. Let us never forget the two supreme doctrines which he established, and which neither his predecessors nor his contemporaries had understood: (1) The circulation of blood from heart through arteries and back through the veins to the heart again. The pulmonary circulation, it is true, had been more or less apprehended, but it was reserved to Harvey to establish the true nature of the systemic circulation and to give the *coup de grâce* to the ebb and flow movement of the blood current now this way, now that, which was the accepted explanation up to his time. (2) The muscular contraction of the ventricles, the real motive force of the circulation, which had been conspicuously ignored and misinterpreted previously.

It is quite true that Harvey's view of the respiratory function was inadequate. For him it was summed up in cooling and ventilation; he never thoroughly faced the difference between arterial and venous blood, and it is doubtful if the meaning of oxidation had taken any definite shape in his scheme of life. But the day of chemistry was not yet, though it was not far off, and it was impossible for him without the help of the microscope to bridge over the space between the arteries and the veins. How he would have leapt for joy if Malpighi had only demonstrated the existence of the capillaries within Harvey's lifetime!

What was Harvey's method? It is certain that he had a wide and thorough acquaintance with the work of his predecessors, but he differs from them all in the courage and independence with which he really begins his work by ascertaining by his own senses what are the anatomical facts untrammelled by the statements of authority. He follows up his human anatomy by comparative studies of the circulatory organs of every animal that he can obtain. Then he reflects on the simplest explanation of the anatomical mechanism before him. Finally he devises experiments, vivisectional and otherwise, to test and verify his hypotheses.

The question has been asked again and again, What was the relation between Bacon and Harvey? Bacon, in his *Novum Organum*, which was published in 1620, makes no reference to Harvey's discovery. Harvey's book appeared in 1628, and Bacon died in 1626, but one would have supposed that Bacon might have heard the account of Harvey's discovery during the four years which had elapsed since he first expounded it in the College. On the other hand, Sir Samuel Wilks is not, I think, correct when he says that Harvey had not read Bacon's works, and owed nothing to Bacon. In the twenty-fifth exercise of Harvey's book on generation there is a sentence in which he proposes to review and analyse some of his previous results, and he says: "Wherefore I think it advisable here to state what fruits may follow our industry, and, in the words of the learned Lord Verulam, to enter upon our second vintage." If Aubrey is to be credited, Harvey "esteemed Bacon for his wit and style, but would not allow him to be a great philosopher. 'He writes philosophy like a Lord Chancellor,' Harvey says, 'but I have cured him.'" I think probably, in spite of Bacon's many-sided enlightenment. Harvey looked upon him as an academic *littérateur* who had no claims to eminence in practical investigation, and it may well be that Bacon's deep-rooted antagonism to Aristotle, which dated from the time when he was a student at the university, may have roused Harvey's distrust. "A man of genius lights his own fire," said John Foster, and in spite of all that has been said about every man's work being more or less dependent upon his environment and the heritage of the past, I do not think we are wrong in claiming that Harvey was a creative genius.

The work on generation has been spoken of as Harvey's aftermath, but in many ways it is more interesting than his *magnum opus* on the circulation, and I do not think it has received adequate appreciation from my distinguished predecessors. It tells us a great deal incidentally about the world experiences of a long and chequered career, and it shows Harvey to us on the speculative and contemplative side. The anatomical observations are of course circumscribed by the absence of microscopical methods, though it must be admitted that Harvey used such magnifying lenses as he possessed to some purpose. There are some erroneous conclusions, but not bad ones.

The introductions on the manner and order of acquiring knowledge and on the method of study are, I submit, masterpieces of lucid exposition. This work is interesting as showing Harvey's own estimate of his teachers. "Foremost of all among the ancients," he says, "I follow Aristotle; among the moderns Fabricius of Aquapendente, the former as my leader, the latter as my informant of the way. . . . For even as they who discover new lands and first set foot on foreign shores are wont to give them new names which mostly descend to posterity, so also do the discoverers of things, and with perfect propriety, g ve names to their discoveries. . . . And now I seem to hear Galen admonishing us that we should best agree about the things, and not dispute greatly the words."

But with all Harvey's reverence for Aristotle's philosophy, I believe he respected him most of all as a great naturalist and observer, and it is noteworthy that for him as well as for Fabricius and for Galen, his reverence never prevented Harvey from pointing out their blunders in anatomical observation as well as in the deductions drawn therefrom. For example, in his fourteenth exercise, Harvey goes so far as to suggest that on one point Aristotle had not himself seen the things he described but received them secondhand from another observer, and that the periods were not given rightly.

As I have already indicated, from 1646 to 1657, his Court duties ended, his private practice relinquished, Harvey lived henceforward in retirement, first with one of his merchant brothers then with another in London or in the country near by. His brothers were substantial and influential people. In earlier years, when their father had left Kent and had come to live in London, Fuller tells us that "as the sons got great estates they made their father treasurer thereof, who, being as skilful to purchase land as they to gain money, kept employed and improved their gainings to their great advantage; so that he survived to be the meanest of them of far greater Estate than himself." In later years his brother Eliab looked after Harvey's money affairs, and he had no anxieties.

We know little of Harvey's married life, but I think it must have been a happy one. His wife was the daughter of a cultivated and eminent physician, Dr. Launcelot Browne. They were married at the very outset of Harvey's professional career, and the wife died probably during the time Harvey was with the King at Oxford. The references in Harvey's will to his dear deceased loving wife show his solicitude to perpetuate her wishes and his gracious desire that certain of his benefactions should be regarded as from her, though she had long since passed away, manifest his tender affection for her. It is clear that his sisters-in-law and all their respective households were unceasing in their care and solicitude, and the detailed and thoughtful remembrance in his will of all his relatives and their servants, and of many poor folk, is very touching. He was childless, but his care for his nephews and nieces was very marked.

This College was the chief interest of his old age. Besides being Lumleian lecturer he had been at different periods censor, treasurer-elect, and finally, when he graciously declined the proffered presidency, councillor of the College.

It is interesting to think of the devotion and long duration of his friendships. In old days he had nominated Dr. Edmund Smith as his substitute at St. Bartholomew's. Edmund Smith was with Harvey at Oxford, and now when Harvey was building at his own expense the costly and beautiful addition to the College edifice it was Edmund Smith who really superintended the whole business for him and whose name at Harvey's desire, along with that

of Dr. Prujean, the president, appeared on the commemorative inscription. I have referred to the brotherly attachment of Harvey, Ent, and Scarburgh. Harvey's discoveries were at length warmly accepted by foreign universities and by foreign anatomists and scholars, notably by Slegel, Bartholin, and Descartes. Some of these foreign anatomists stoutly defended Harvey's doctrines against the few remaining obscurantists who were still in opposition. His friend Thomas Hobbes said that Harvey was the only man whom he knew that had lived to see his own doctrine established in his lifetime. Abraham Cowley's poetry is seldom read in these days, but his two poems on Harvey, based on intimate knowledge of the man and of his work, are full of genuine feeling and devotion. But the recognition most precious to him was the homage of this College. Fuller says of him he was not only Doctor Medicinae but Doctor Medicorum. The homage of the College was shown during his lifetime by the erection of his statue. It was further shown by the large gathering of fellows who followed his remains beyond the city walls in the first part of his funeral. How many of them gathered round his tomb at Hempstead in Essex we do not know. The homage of his successors in this College was shown in 1883 by the reverent removal of his remains from the damaged outer vault where they lay, to a sarcophagus in the chapel above.

Whilst we of this generation render our homage to our great benefactor let us in a few words picture to ourselves the outstanding features of his work and character.

First observe his pursuit of truth for its own sake, even though a complete solution were not forthcoming and quite independently of any ulterior benefit that might ensue. His discovery was one of those which, in Bacon's phrase, might fairly be called "light bearing" rather than "fruit yielding."

Amongst the objections which Harvey had again and again to combat in his work on the circulation was the ever-recurring question, *Cui bono?* Listen to his reply:

> I own I am of opinion that our first duty is to enquire whether the thing be or not, before asking wherefore it is. . . . Meantime I would only ask how many things we admit in physiology, pathology and therapeutics the causes of which are unknown to us? Whoever therefore sets himself in opposition to the circulation because if it be acknowledged he cannot account for a variety of medical opinions, nor in the treatment of diseases, give satisfactory reasons for the phenomena that appear or who regards it as in some sort criminal to call in question doctrines that have descended through a long succession of ages; to all of these I reply that the facts cognisable by the senses wait upon no opinions, and that the works of nature bow to no antiquity for indeed there is nothing either more ancient or of higher authority than nature.
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> With what labour (he says) do we attain to the hidden things of truth when we take the averments of our senses as the guide which God has given us for attaining to a knowledge of his works, avoiding that specious path on which the eyesight is dazzled with the brilliancy of mere reasoning, and so many are led to wrong conclusions to probabilities only and too frequently to sophistical conclusions on things.

The doctrine of "spirits" dominated the physics and the physiology of that time. Harvey says:

> As it is still a question what they are, how extant in the body, of what consistency, whether separate and distinct from the blood and solids or mingled with these—upon each and all of these points there are so many and such conflicting opinions that it is not wonderful that "the spirits" whose nature is thus left so wholly ambiguous should serve as the common subterfuge of ignorance.
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> Persons of limited information when they are at a loss to assign a cause for anything, commonly reply that it is done by the spirits, and so they bring the "spirits" into play upon all occasions even as indifferent poets are always thrusting the gods upon the stage as a means of unravelling the plot and bringing about the catastrophe.

Harvey's demolition of the doctrine of "spirits" marks an epoch in the history of science.

Long sentences were the fashion of the time, but Harvey makes his meaning plain. He was keenly alive to the bondage of names and phrases. He was anxious to get the *knowledge of things* and not greatly concerned about names. He maintains that our business is not so much to inquire what a word properly signifies as how it is commonly understood. His writings are lit up by quaint and homely similes, but they are free from the pedantry of his time. Sir Clifford Allbutt thinks he was lacking in imagination. Perhaps that is so, and I think the result is that although some of his conclusions are incomplete and inadequate they contain remarkably little that is erroneous.

And about his character: There is in the opening sentences of his will a humble and definite statement of his Christian faith, and in his book on generation he expresses his conviction of the immanence of God. "He takes," Harvey says, "the right and pious view of the matter who derives all generation from the same eternal and omnipotent Deity at whose nod the universe itself depends."

Aubrey says that Harvey, like his brothers, was choleric. You may say that the Treviso letters support that assertion, but remember he had great provocation, and he was a gouty subject. At all events, his choleric temper did not interfere with his courtesy and modesty in controversy, nor with generous appreciation of the work of his contemporaries. Harvey's power of concentration and detachment in biological observation in adverse surroundings was amazing. He was patient and laborious in his investigations, and reluctant to make any premature announcement of his conclusions. He was content to wait the judgement of time and enlightenment. He grew more and more fond of contemplation and even of solitude at times, because it gave him greater opportunity for contemplation. His love of family and of friends has been already noted, and to this may fitly be added his unfailing kindness to young men and readiness to advise them as to travel and books, and his willingness to take trouble on their behalf.

The concluding parts of his last letters are very touching. The nearer he approaches the great divide the more he craves for the abiding remembrance and the affection of his correspondents. It is not only the old man eloquent, but the old man mellowed and gentle.

And now in these severe and strenuous days, when we trust that "the winter of our discontent" is soon to pass away, we recall once again the last exhortation of our great master. He bids us "ever to search out and study the secrets of Nature by way of experiment, and for the honour of our profession to continue mutual love and affection amongst ourselves."

MERALGIA PARAESTHETICA.

BY

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MERALGIA PARAESTHETICA—a condition characterized by mononeuritis of the external cutaneous nerve of the thigh—is said to be of infrequent occurrence. In my experience, however, it has not seemed so rare when once the condition is recognized, and I have perhaps seen a dozen cases in the last ten years, five cases in soldiers having come under my care within the last nine months. The condition is important from a military point of view, because it is capable of giving rise to disability of longer or shorter duration, and this disability may be recurrent.

The condition, which occurs in both sexes, may occur with bilateral symmetry, but more commonly one limb alone is affected. The special feature of this neuritis, which, as the external cutaneous nerve is purely sensory, is unattended by motor disturbance, is dissociated sensation, the deep or protopathic sensibility, through afferent fibres contained within the motor nerve bundles supplying the muscles, being unimpaired. Sensation over the area of distribution of the affected nerve, which, as a rule, can be strictly delimited, is lost, so far as finer sensibility is concerned, for slight touch, for perception of points, for heat and cold, and to a certain extent for pain, while deep pressure can be perceived, and a touch on the bare skin is felt as though a layer of clothing intervened, or as one might feel a touch on the back of a gloved hand. In old-standing cases a distinct cutaneous thickening may be made out locally if a fold of skin is pinched up between the finger and thumb, and the skin of the affected area (in some cases at least) begins to grow bald from atrophy of the hair follicles; while, either in association with this, or as the result of the local analgesia, the phenomenon of the cutis anserina is lost locally, so that if the patient is examined in a cold room there is no goose-skin on an area

in the upper and outer aspect of his thigh, even though the other parts show this distinctly, with erection of the hairs over the rest of the limb.

Not only is there this anaesthesia, or rather analgesia, but perverted sensations are present in the affected area. These are variously described, and take the form of shooting pains, of a sensation as though an invisible hand had grasped the thigh and were screwing round a handful of the flesh, and of a sensation as though scalding water were pouring down the outside of the limb. These sensations are usually of short duration, and are of variable onset; they may not occur for months on end, or even for years in old-standing cases, but are liable to recur again and again on little or no provocation. Their onset may be ascribed to changes in the weather, to damp and cold combined, to going out into the cold frosty night air from a warm billet, or to exercise, especially moving at the double. The pains may be nothing more than a mere tingling, or they may be so severe as absolutely to incapacitate the patient for the time being, and it is this possibility of the occurrence of sudden attacks of absolutely incapacitating pain that makes the condition of importance from the point of view of military surgery.

I have observed a patient in one of these paroxysms of pain obtain a certain amount of relief by adopting the following attitude. He bent his knee and raised the heel off the ground, flexed his body forward at the hips and seized his thigh with his hand, applying steady pressure. In this position he remained without moving for about a couple of minutes until the pain passed off, afterwards moving forward again slowly and cautiously, only to adopt the same posture a few paces further on, exercise having brought on an almost immediate recurrence of the pain.

The etiology of the condition seems to be unknown. Various more or less unsatisfying causes, including alcoholism of course, have been suggested, and the general opinion seems to be that it is probably of toxic origin.* A case is on record in which pressure of a long corset apparently induced the condition, for when a piece was cut out from that structure where it was supposed to be exerting pressure on the nerve the symptoms disappeared. One of my cases in civil practice quite distinctly occurred for the first time during involution of the uterus after childbirth, while in only one of all my cases was there any definite story of alcoholism, though even here other factors might have been at work, as the patient was a schoolmaster, who was too fat and took little or no exercise. Robust and well-developed persons may suffer from this complaint; I have seen it in a man who had been an international footballer.

It seems possible, however, that the condition may owe its origin to purely mechanical causes and be dependent on the local anatomical peculiarities associated with the course of the external cutaneous nerve. This nerve becomes subcutaneous in the upper and outer part of the thigh by piercing one of the strongest sheets of fibrous tissues in the body, the fascia lata. Posture, as above described, seems to ease the pain during the paroxysms, and exercise—the patients are convinced—to increase it or even to precipitate an attack. This must be associated with the anatomical peculiarities, and it seems feasible that the condition itself is merely caused by a nipping of the nerve trunk at its point of emergence through the fibres of the fascia lata, a possibility that will be increased in any circumstances that conduce to an overgrowth or fibrosis of that fascia. The external cutaneous is the only nerve that has this course, and in meralgia paraesthetica this nerve is alone affected.

It has been suggested to me that if this theory is correct it may be possible to relieve the condition surgically—by cutting down on the nerve, tracing it to its point of emergence through the fascia of the thigh, where this might be incised, and a flap either stitched back or excised, in order to relieve pressure on the nerve. It is a suggestion that is perhaps worth following up.

The five cases met with among soldiers are briefly described below. It is unnecessary to go into full details, as the sensory tests and the distributional area of the analgesic skin are always the same.

CASE I.—Private, aged 24; July 9th, 1915. Outside of both thighs symmetrically affected for past two days (weather at present damp and overcast, and patient sleeping on the ground under canvas). On stepping out smartly he is suddenly pulled up by a sensation as if his flesh had been gripped tightly. Cutaneous sensibility is impaired in the area supplied by external cutaneous nerve; on the inside of the thighs the sensation is normal.

CASE II.—Private, aged 22; July 19th, 1915. Pain in left thigh; coming on acutely the previous morning and preventing marching. Walks with a limp, has pain locally, and cutaneous sensibility is dulled. The other thigh is not affected.

CASE III.—Lance-Sergeant, aged 21; March 22nd, 1916. Acute pain in right thigh of four days' duration. Has never been similarly affected. Onset with aching; while walking he gets sudden stings in his thigh, causing him to stumble. While on a route march his thigh felt as though it were gripped, the sensation causing him great pain. The area of the external cutaneous nerve is analgesic, with a small anaesthetic point at both its upper and its lower limit. He was given phenacetin and rest; at night his thigh was so sore that he was unable to sleep for the pain. Next day he walked with a limp, and said that while he was walking sudden stinging pains shot up the thigh and caused him to stumble.

CASE IV.—Private, aged 18 years; April 5th, 1916. Bilateral, in a dirty, ill-nourished youth who has been six months in the army and who previously plucked fowls for a living. First attack was in Ireland three months ago. The pains occurred mostly when walking and in damp weather; they came and went and were sometimes worse than at others. Occasionally he had sensations as if an open knife were in his trousers pocket and had stuck into and lacerated the limb; at other times as if scalding water were pouring down his thigh. He had smooth, relatively anaesthetic areas on both thighs in the distribution of the area of the affected nerve.

CASE V.—Private, aged 44 years; April 26th, 1916. Of right thigh, with pains running between his hip and knee on marching, these pains having ensued on coming out of the trenches ten days ago and having occurred daily since. When the pain comes on he is unable to use his leg, which he thinks gets quite stiff at these times; it leaves him after resting, but when he has rested and starts off again it gets very sore, and he is then able to do very little. "Sometimes it is a sharp penetrating pain and at other times it is more dead-like." He had the same condition the winter before last, and was in a civil hospital for it for four weeks, being treated, he says, as a case of rheumatics. Is elderly and not well developed; locally the skin is smooth and thickened. He complained also of some pain in lumbo-sacral muscles and had defective teeth.

Treatment, apart from the suggested operative interference, is of little use. Tonics, massage, electrical treatment (including the various forms of high frequency) have all been tried and have all failed. When the attacks are occurring, rest and substances such as phenacetin are indicated, while purgatives should be administered, as pressure of a loaded sigmoid in the region of the lumbar plexus is calculated to exalt the irritability of the affected nerve. Warm underclothing must be worn in all cases, as the patients are unanimous in ascribing the onset of their attacks to climatic conditions, changes of temperature, cold and damp.

The attacks of pain tend to wear off and to become less frequent with the lapse of time. The feature of the condition, however, is the unreliability of the symptoms and the likelihood of relapse.

SHELL SHOCK AND ITS TREATMENT BY CEREBRO-SPINAL GALVANISM.

BY

WILFRID GARTON, CAPTAIN R.A.M.C.

THE term "shell shock" is made use of to describe two distinct conditions—one a severe type of traumatic neurasthenia, and the other bearing no resemblance to a neurasthenic condition, but characterized by hysterical manifestations.

It is for shell shock of the neurasthenic type only that cerebro-spinal galvanism is of service as a treatment, for, its use being based on the assumption that neurasthenia is an organic disorder, there is no reason to expect any favourable results to follow its use in a condition of functional disorder.

In the neurasthenic type of shell shock most, if not all, of the following symptoms are found to be present: Headache (always aggravated by the advent of thundery weather), insomnia, mental depression, loss of memory, nervousness, bad dreams, fatigue (without exertion).

* A case, seemingly of this condition, is even reported as having occurred after poisoning by carbon monoxide, the toxic gas that causes much trouble in mines. In this instance intense neuralgia in the upper part of the thigh set in ten days after the gas poisoning and continued for fourteen days. (Huchzenmeyer, *Ueber Kohlendunstvergiftung*, Inaug. dissert., Berlin, 1866.)

tremors, wasting, and loss of appetite. Paralysis of limbs or groups of muscles and localized pains are also present in a number of cases. The resemblance between this condition and neurasthenia following severe illness is so striking that a similarity of origin is exceedingly probable.

Any one of the above symptoms appearing separately might be looked upon as a functional disorder, but the co-existence of all or nearly all of them in a series of cases admits of only one explanation (if the simplest explanation is the most probable), and that is that they are the effect of a common cause—organic disorder of the central nervous system, and, as there is no gross lesion, this is probably a disarrangement of metabolism. Furthermore, the character and personality of the patient are greatly changed by this condition, and it is inconceivable that this alteration can take place independently of any structural damage or metabolic disturbance in the organism from which the character and personality take their origin and depend on entirely for their continued existence.

A possible explanation of the appearance and persistence of the symptoms is that the violent concussion of the explosion produces a partial paralysis of the nervi nervorum. The interference with the nutrition of the whole nervous system would prevent the restoration of the nervi nervorum to their normal activity, and thus the evil would be acting in a circle. This would account for the resemblance between these cases of shell shock and cases of neurasthenia following severe illness, for a partial paralysis of the nervi nervorum might be produced by the action of toxins.

The cure of neurasthenia by suggestion in some cases is not an inexplicable contradiction, for it is conceivable that the paralysis of the nervi nervorum may be of just such an extent that recovery is only prevented by the mental depression consequent on the condition maintaining a state of lowered vitality. In such cases relief from the mental depression would result in a cure.

Now if there is any probability that shell shock of the neurasthenic type is due to a paralysis of the nerves regulating nutrition or a disorder of metabolism, then the use of the galvanic current is a treatment from which one has every reason to expect good results, for the most powerful agent we have for stimulating the nerves to activity is electricity.

The best form of apparatus is a battery of wet Leclanché cells connected to a switchboard on which are two resistances, each of 1,500 ohms, one in series and the other in parallel with patient and milliampèremeter. The treatment is then commenced with no resistance in parallel and full resistance in series. The parallel resistance is first increased to its full extent and then the series resistance diminished until the required amount of current is obtained. If this apparatus is not at hand a battery of twelve dry cells with cell collector and galvanometer, and a resistance of at least 1,500 ohms may be used. No current derived from the mains or any universal apparatus should ever be used for this treatment.

A pad composed of about sixteen layers of lint, soaked in a solution of sodium salicylate in distilled water, is applied to the forehead, care being taken that the pad is evenly wetted, and that its centre coincides with the middle line of the forehead. Over the centre of the pad is placed a metal plate, and the whole firmly bandaged to the head. The metal plate is connected to the negative pole. A pad of the same thickness, about 10 in. by 6 in., is soaked in tap water, covered with a metal plate, and firmly bandaged to the lumbar region. This is connected to the positive pole.

The current is increased very slowly, taking about twenty minutes to attain the maximum of 20 milliampères, at which point it is allowed to remain for twenty minutes, and then is slowly reduced to zero. When increasing the current the cell collector is advanced before reducing the resistance, and when decreasing the current the resistance is used first.

For a first treatment I give only 10 milliampères for ten minutes, and do not pass the full strength of current (20 milliampères) till the third or fourth treatment. With patients who are nervous of electricity I find it a good plan to give labile galvanism to the spine for two or three days before commencing cerebro-spinal galvanism.

Having found this treatment successful in cases of neurasthenia, I treated several cases of shell shock by the same method shortly after joining the service. Unfortunately, I was unable to keep these patients under my care for a sufficient length of time to effect a cure, but in every case I was impressed with the rapid progress made towards recovery. I had no further opportunity of treating this condition until the end of February, 1916. My first patient had not suffered by a shell explosion at close quarters, but he had been exposed to shell fire in the trenches for a considerable time, and as he showed most of the symptoms of shell shock, I think the case worth recording, although it was not of a severe type.

Case I.

Private S., aged 34. Constantly exposed to shell fire during the latter half of last year. When first seen he was suffering from pain in the back and legs, tremors, headache, fatigue without exertion, nervousness, insomnia, mental depression, wasting, and loss of appetite. Cerebro-spinal galvanism was commenced on February 23rd, but after three treatments his regiment was moved to another district. He was transferred about a month later to a home service battalion, and being stationed in this district again, asked permission to continue his attendance at this hospital, as he had derived so much benefit from his treatment here. The treatment was again given three times a week for five weeks. At the end of that time he had gained considerably in weight, the tremors had disappeared, and he stated that he felt quite well except for the pain in his legs, which had increased. I took an *x*-ray plate of his legs, which showed a syphilitic condition of the bones. Treatment for this condition was carried out by the medical officer of his regiment, and he now feels perfectly well.

Case II.

Private H., aged 30, was knocked over and buried by a mine explosion on December 12th, 1915. He was unconscious for some hours. He was in a V.A.D. hospital for a month after arriving in England, and then returned to his regiment for light duty. He was still exceedingly nervous, and was so distressed by being placed on guard on a railway that he reported sick. When first seen he was evidently in an extremely nervous condition, and very depressed mentally. He complained of bad dreams, want of sleep, loss of memory. He was also suffering from severe headaches, fatigue, and loss of appetite. He was considerably wasted.

Cerebro-spinal galvanism was commenced on March 25th. After four treatments he was sent out of hospital owing to an error, as fit for duty. His medical officer was communicated with, and as the patient was very much better, he was allowed to remain on light duty, and received treatment again on April 5th and 7th.

On April 8th he received news of the death of one of his children, and had no recollection of what happened afterwards until he found himself in Birmingham. About twelve days later he reported to the nearest police station that he was absent from his regiment without leave. He came to this hospital again on May 1st, and was admitted. Treatment was recommenced, and by the end of May he had gained about 1½ st. in weight, and appeared to be in perfect health. Treatment was continued until July as a precaution against a return of the condition.

Case III.

Sergeant P., aged 37, was blown up by a mine explosion on July 27th, 1915. He was unconscious for fifteen hours. On recovering consciousness his left lower limb was found to be paralysed, and it remained so for five months. He was treated at a military hospital for four months, where he was given electric baths, and then removed to another military hospital, where he remained for three and a half months, being treated daily by massage, faradism, radiant heat, and ionization. He left there on March 25th, at his own request, to return to light duty. He reported sick again on April 7th. When first seen he was suffering from headache, insomnia, bad dreams, loss of memory, tremors, pain in the lumbar region, mental depression, and fatigue without exertion. He stated that he had lost flesh early in his illness, but had regained his normal weight, and that his headache was less constant than at first, though undiminished in intensity.

He has been treated three times a week by cerebro-spinal galvanism since April 22nd. He has now perfectly recovered from loss of memory and mental depression, and exhibits no tremor. There is very little nervousness. He still suffers from slight headache in the morning. He is sleeping fairly well, and is not much troubled with dreams. He suffers from fatigue, but far less than when treatment was commenced. The pain in the lumbar region is not much improved, but in every other way he is making steady progress. While under treatment he has been doing clerical work continuously.

Case IV.

Sapper M., aged 30, was blown up by a mine explosion in September, 1915. He was unconscious for ten hours. He had the usual symptoms of shell shock, but tremor all over the body was particularly prominent. There was also drop wrist on the left side. After three months in a military hospital he returned to light duty. His condition gradually became worse again, and he reported sick about the middle of April. When first seen tremor was very noticeable. He complained of headache and insomnia, which had not diminished at all while under

treatment. There was also loss of flesh, muscular weakness, loss of memory, mental depression, and bad dreams. He reported sick on account of the tremor increasing and persistence of paralysis of his forearm.

He has now had six treatments by cerebro-spinal galvanism. He is sleeping well, and has only slight headaches occasionally. The tremor has disappeared, his memory is good, and he is quite cheerful. Some voluntary movement returned to the extensors of the hand and wrist after treatment of the spine by labile galvanism, and the power of movement is increasing although he has had no local treatment for these muscles.

The conclusion I have arrived at from the trials I have carried out of this treatment is that nearly all cases of the neurasthenic type of shell shock would derive great benefit from it, and the majority of cases, excepting those of the most severe type, would be cured in under three months.

TREATMENT OF MENINGITIS.

BY

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PNEUMOCOCCAL meningitis is still considered so universally fatal that it seems useful to put on record cases of recovery.

My first successful case occurred a few years ago in a child between 3 and 4 years old, who had a severe attack of bronchopneumonia lasting a fortnight. The lungs began to clear up, but the temperature remained between 102° and 103° F., and the child became drowsy. When admitted to hospital there was almost complete coma; the neck was retracted, and there was strabismus. By lumbar puncture a thick white fluid flowed off under pressure; it looked like pus from an empyema, and gave an abundant growth of pneumococci. The child was put on urotropine gr. 3 every four hours, and was given 5 c.cm. of Pane's antipneumococcic serum by the mouth; no food was given for two hours before or two hours after. The Pane's serum was given every twenty-four hours on an empty stomach for three days, then every other day, and later twice a week. Lumbar puncture on the third day gave a less thick fluid. After the third day there was slow but steady improvement. The temperature did not settle to normal for six weeks, but at the end of three months the child was perfectly well.

Since then I have had two recoveries in children treated in the same way. I give Pane's serum by the mouth in children, preferably when waking in the early morning, as the stomach is then at its emptiest. In pneumonia it has always acted well taken in this way. The dose by the mouth is double that necessary hypodermically, but the child is saved the pain of the injection.

The only case in an adult which I have treated was a soldier admitted to hospital in April.

He had had headache for eight or nine days, with a temperature from 99° to 101° F. for a week, and vomiting independently of meals. On admission the temperature was 101°, the pulse 90. He complained of severe headache and frequent vomiting. There was a large crop of herpes on his lips, the tongue thickly furred, and the mouth very foul. His head was not retracted, but it could not be moved forwards beyond the vertical. Kernig's sign was present. Knee-jerks were absent, and the plantar reflexes were flexor. Cloudy fluid was obtained by lumbar puncture. Nothing abnormal was found in the chest. He was given urotropine gr. 20 every four hours.

Next day the cerebro-spinal fluid was reported to give a growth of pneumococci, and 10 c.cm. of Pane's serum was injected in the flank; this was repeated every other day for four doses, then every third day for three more doses. Improvement began about the fifth day, the headache being less severe, and the temperature falling in the morning to 98°, though still 101° in the evening, instead of keeping consistently high. Vomiting was less frequent also. As the general condition improved the pulse-rate became faster, 100 to 120. For the first three days it had not risen above 90, though the temperature was 100° to 101° all the time.

The temperature definitely began to fall on the twentieth day after admission, and became normal by the twenty-third. Urotropine gr. 20 was given every four hours up to this date without any urinary symptoms. The patient became very emaciated during the illness, and was a long time regaining flesh and strength, but he is now at a convalescent home feeling quite well.

Lumbar puncture is much simplified if a hypodermic syringeful of eucaine and adrenalin solution is injected under the skin at the selected site, and also down between the arches of the vertebrae, in adults as deeply as the hypodermic needle will reach, in children of course not far enough to risk entering the spinal canal. After waiting five minutes, lumbar puncture can be done painlessly and without any movement on the part of the patient.

An interesting case of streptococcal meningitis, again a soldier, was admitted under me in February.

He had been ill for a fortnight and complained of intense headache, which kept him awake at night. His pulse and temperature were normal for the first four days. He did not vomit, his tongue was very furred, and his breath offensive. There was no retraction of the neck and no Kernig's sign. No drugs had any appreciable effect on the headache. Four days after admission he had a sore throat and his temperature rose to 100° F. There was then for the first time some difficulty in making the chin touch the chest. A day later rigidity of the neck was definite. There was also oedematous swelling of both temporal and preauricular regions, more marked on the right side. Next day there was oedema of the eyelids as well as of the temporal regions. Kernig's sign was present for the first time in slight degree.

The cerebro-spinal fluid was cloudy. After examining this a bacteriologist declared the case to be one of spotted fever, and had him removed to the sanatorium, where he came under the care of Dr. Duncan Forbes, who, when the man died a few days later, kindly showed me the results of the *post-mortem* examination. There was pus at the base of the brain containing a Gram-positive streptococcus. The body of the sphenoid bone was extensively diseased.

It seemed evident that the disease was primarily of the bone, and that the meninges were affected later. The most interesting feature of this case was the swelling of the temporal and orbital regions with definite signs of meningitis, coming on after the throat became infected. There was no nasal discharge nor any indication that the ethmoid was diseased.

The most severe case of meningococcal cerebro-spinal meningitis in which I have seen recovery take place was the following:

A boy aged 14 was seen in consultation several times with Dr. H. J. Pulling in January, 1915. He got up well one morning; at dinner time he refused his food, and complained of headache. When I saw him, at 8.30 p.m., he was lying on his side with his legs drawn up. He was quite comatose, with marked strabismus and paralysis of the left arm. There was evidence of pain on pushing the head forward, but no real retraction of the neck; Kernig's sign was very marked, the knee-jerks were weak, the left plantar reflex extensor; temperature 103° F. Lumbar puncture gave milky fluid under great pressure; over a test tube full was allowed to flow before the stream became of normal pace. There was no rash that day. He was given 8 grains of urotropine every four hours through a nasal tube, and was also fed in that way; 10 c.cm. of Pane's serum were injected as it was at hand. The cerebro-spinal fluid gave an abundant growth of meningococcus, after which Flexner's serum was obtained and injected subcutaneously. By the third day he had improved remarkably, being quite conscious and taking food well, but he relapsed though not to unconsciousness. Later there was incontinence of urine and faeces, but vomiting was not troublesome. He became extremely emaciated, and always lay on his side curled up and often moaning. It was very difficult to prevent the formation of bedsores. He took urotropine for a long time, and opium was given for the relief of pain and to promote sleep. He was very ill for two months, but Dr. Pulling ultimately pulled him through, and he is now quite well mentally and physically except for slight stiffness of the left arm.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

COLLOSOL ARGENTUM.

I HAVE been using collosol argentum lately, and I think the results may interest others.

The first case in which I used it was a lady who had had pyorrhoea for several years. I gave her 15 minims of the drug hypodermically in the arm. One injection cured her.

A young girl, aged 18, came to my house with acute inflammation of one eye with an ulcer on the cornea. Two drops of collosol argentum were dropped in the eye at 7 p.m., and a pad placed over the eye. When she came next morning the eye, to my astonishment, was quite well; the ulcer had disappeared, and there was no inflammation.

A man in poor health was admitted to hospital and I removed his appendix. He did very well till the fourth day when he developed acute intestinal obstruction. He was opened again and a twisted intestine was put straight, but although he had good relief from the bowels he did not do well. The wounds suppurated, and he got septic diarrhoea which nothing seemed to relieve. In despair I injected 20 minims of collosol argentum every day. The diarrhoea soon stopped, the pus dried up, the wounds took on a healthy aspect, and he made a good recovery.

A child, aged 3, had tuberculous glands of the neck, and was very emaciated. The glands were removed and the wound did badly. Collosol argentum (10 minims) was given by the mouth

daily. The pus soon lessened and a cicatrix formed. Another gland subsequently gave trouble under the chin and had to be scraped occasionally, but the general improvement in the child is very remarkable.

A young woman, aged 27, developed symptoms of phthisis with tubercle bacilli in the sputum. She was given 20 minims of collosol argentum hypodermically every other day. The night sweats have disappeared, the cough is much less, and she feels and looks much better.

I find the drug very useful as a nose spray for post-nasal catarrh and also for simple nasal catarrh.

St. Albans. A. H. Boys.

Reports of Societies.

MOUTH PARASITES IN PYORRHOEA.

At a meeting of the Royal Microscopical Society on October 18th, Mr. Heron Allen, the President, being in the chair, Dr. Helen Pixell Goodrich and Mrs. M. Moseley contributed a paper on "Certain parasites of the mouth in cases of pyorrhoea."

After a study of some hundreds of cases and of examples of the condition in dogs and cats they had come to the conclusion that the gingival space was not primarily affected, but that the first lesion occurred at the surface of the gum. The tartar, which was characteristically formed in great amount, they attributed to an organism, a leptothrix, and not to chemical changes. The tartar often extended underneath the crown, and sometimes even to the root. They had seen no reason for separating tartar into two kinds, as had been done by some. In its early stages pyorrhoea was represented as a marginal gingivitis; afterwards the gums receded, and the gingival spaces became affected, pockets of pus and other suppurative changes ensuing. The recession had been noted to be more advanced on the left side in right-handed people, which might be accounted for by the use of a hard toothbrush. The destruction of bone which accompanied pyorrhoea, and which had been variously explained, they regarded as due to organisms emanating directly from the gingivitis. Of parasites they had found swarms of all kinds, particularly bacteria. The amoeba which had been described in America they found to be common; it was absent from healthy mouths which had been kept scrupulously clean. Its favourite habitat was the tartar and not the tissues of the gum. It was found on the under side of the tartar ridge and between the threads of the leptothrix, not in the periodontal membrane as the American authors had stated. The authors were strongly of opinion that it was not the causal organism of pyorrhoea. The reasons given for inculpating the amoeba were (1) that the amoebae burrowed down in the tissues, destroying the periodontal layer, and getting into the deepest parts of the pockets, (2) that it could not be found in healthy gums, (3) that emetine, a known amoeba destroyer, caused their disappearance and an improvement in the condition. To these arguments they raised the following objections: The amoebae did not occur in the periodontal membrane, but in the tartar; A. E. Williams had found the amoebae in 30 per cent. of New York children with healthy gums; and in four cases under close observation emetine had not been beneficial. Moreover, in advanced cases sometimes very few amoebae were found, whilst they might be abundant in early cases. Cysts had been described by some authors, but the only ones which they (Dr. Goodrich and Mrs. Moseley) had found were those of other amoebae, and were such as frequently found their way into the mouth from uncooked vegetables. All attempts to grow the amoebae had proved fruitless. The amoebae bore some resemblance to those of dysentery —*Entamoeba histolytica*—but showed certain differences, notably that the cell inclusions were usually remains of mononuclear leucocytes, not of red blood corpuscles. Trichomonas was often found, but usually in small numbers, and was unconnected with the pyorrhoea. The leptothrix was found in profusion and growing in several forms—as threads, as coccoid bodies, as flower heads, as a bottle-brush shaped form, and as fusiform bodies. It was closely connected with the tartar, which the authors considered was caused by a progressive calcification of its threads from their point of attachment. They had never found tartar in the absence of the leptothrix, and suggested that tonsil stones, salivary calculi, and possibly other concretions might own a similar origin. The fusiform bodies appeared to be identical with the fusiform bacillus regarded as the cause of Vincent's angina.

Reviews.

DERMATOLOGY.

It is easy for a reviewer to say that a textbook which has reached its sixth edition has justified itself by winning public approval, and that it is therefore unnecessary for him to express an opinion on it. We will not take this easy course with the sixth edition of Dr. Norman Walker's *Introduction to Dermatology*,[1] because, though the first edition, which appeared in 1899, was a good book, the author has gone on steadily improving it. It has all along been first and foremost a thoroughly practical book, dealing at length with the commoner affections, but not omitting the more rare. It everywhere gives evidence of the fact that its author is an experienced teacher, and in the discussion on symptoms and treatment its pages are imbued by the most recent lessons of pathology and bacteriology. A good example of the merits of the book is afforded by the section dealing with the various forms of dermatitis. The sections on dermatitis venenata and dermatitis autophyta are instances of shrewd observation, and also afford an example of a respect in which the book has been improved. It has always been well illustrated, but its success has encouraged the author and publisher materially to increase the number of pictures; there were forty-nine plates in the fifth edition, there are sixty-eight in this. All of them are helpful, and none introduced, as sometimes happens, because the author happened to have good drawings by him. A number of them are in colours, very well reproduced. In the discussion of the treatment of rodent ulcer we find in this edition a note upon its treatment by radium, to which the author says "there is no room for doubt that certainly in the earlier stages exposure to radium is the most satisfactory method of treating rodent ulcer. The duration of the exposure required depends, of course, on the amount and activity of the particular specimen of radium used. In about a fortnight after exposure there is a violent reaction, and a peculiarly adherent scal forms. When this falls off (in two or three weeks) the part is usually soundly healed." In the fourth and fifth editions the author acknowledges his obligations to Dr. Cranston Low, and his name appears on the title page of the sixth edition. The book is one which we can heartily recommend to general practitioners, not only because of its practical and comprehensive character, but because the illustrations are so numerous and so typical that they render a separate atlas unnecessary.

Dr. W. Knowsley Sibley's *Treatment of Diseases of the Skin*[2] has reached a second edition. The author has taken the opportunity of adding new sections on a number of skin disorders to which attention has been particularly directed during the last four years. He has also added a chapter on radium, and has extended those on x rays and ionization. In fact the special characteristic of the book seems to be the attention given to physical methods of treatment, and in particular to x rays, which the author considers to be valuable in a number of skin diseases. He does not speak very enthusiastically of the use of radium in rodent ulcer, and appears to prefer to treat this disorder by x rays. A full pastille dose or more should, he advises, be administered the first time, with gradually diminishing doses afterwards, the treatment being repeated about every three weeks. It is, he says, often a good plan to apply carbon dioxide snow first, and then after a few days x rays. The book is illustrated by reproductions of a number of photographs, and its practical utility is increased by a classified list of prescriptions.

[1] *An Introduction to Dermatology.* By Norman Walker, M.D., F.R.C.P., with the assistance of R. Cranston Low, M.B., F.R.C.P. Sixth edition. Edinburgh and London: W. Green and Sons, Limited. 1916. (Demy 8vo, pp 381; 68 plates, 84 figures. 15s. net.)

[2] *The Treatment of Diseases of the Skin.* By W. K. Sibley, M.A., M.D., B.C.Camb., M.R.C.P.Lond., M.R.C.S.Eng. Second edition. London: E. Arnold. 1916. (Cr. 8vo, pp. 316; 16 plates. 6s. net.)

A MODERN PILGRIM'S PROGRESS.

IN the preface to *A Spiritual Pilgrimage*[3] its author, the Rev. R. J. CAMPBELL, informs us that the book was written in response to the suggestion of the Rev. J. D. Jones, who, in May last, at the meetings of the Congregational Union held in the City Temple, said he thought some explanation was due from Mr. Campbell of his ordination in the Church of England. The volume is, as its title suggests, an account of the author's religious development and an autobiography of his inner life; it also contains a good deal of information with regard to his public career up to the time of his cleavage from the Nonconformist ministry. Apart from its bearing upon recent theological controversies—a matter beyond our province—the book has a purely human interest which should secure for it a wide circle of readers.

The fact which, to our thinking, emerges most clearly from the study of this record is that Mr. Campbell has not the genuine Nonconformist temperament. Without for a moment questioning the sincerity of the motives which determined him to accept at the outset of his career the invitation of a Brighton congregation, the reader cannot but feel that insufficient realization of his own ineradicable tendencies was largely concerned in the issue. But the fact was not hidden from his early advisers; he tells us that Canon (now Bishop) Gore expressed at the time his firm conviction that such a temperament as his could not find permanent satisfaction in Nonconformity, "but would be bound to return to the Church sooner or later." Long before the twenty years of his ministry at Brighton and at the City Temple had elapsed it must have become clear to Mr. Campbell that he was not in his true element, as it seems to have been no less clear to his Nonconformist colleagues and associates. It says much for the patience and charity of all concerned that the connexion endured so long, and proved in so many ways fruitful and successful; also that when the inevitable rupture came it was effected with mutual respect and amity. It is evidently now the dearest wish of Mr. Campbell to utilize his exceptional experience in promoting a better understanding and a more cordial co-operation between the Free Churches and the Anglican Communion; and all sympathizers with the ideal of religious unity will wish him God-speed in this high task.

NOTES ON BOOKS.

A SOUND and workaday account of the problems and practice of two modern departments of medicine, known by the graceless and hybrid names "immunology" and "serology," is given in Professor SIMON'S book on *Infection and Immunity*,[4] now in its third edition. The author is saturated with German doctrine and German thought in these matters, even going so far as to germanize the name of the late Professor Metchnikoff whenever he mentions him. He swallows the doctrines of the late Professor Ehrlich whole, so far as may be seen, and gives a very full account of the side-chain theory and chemiotherapy, and their applications to pathology and therapeutics. He is also, as a result of prolonged personal experience, a firm believer in Abderhalden's test for pregnancy and the principle underlying its method. Professor Simon writes clearly and with conviction; his prose is cold and logical, and his experience seems to have been gathered in the laboratory rather than at the bedside. His book is intended for the use of the general practitioner and of medical students while they are working at clinical pathology.

The thirty-ninth volume of the *Transactions of the Medical Society of London*,[5] from October, 1915, to May, 1916, deals almost entirely with war subjects, such as gunshot wounds, and gas poisoning, and it contains Major F. W. Mott's Lettsomian lectures on "The effects of high explosives upon the central nervous system." It also contains Sir StClair Thomson's thoughtful contribution to the tercentenary of Shakespeare's death, entitled "Shakespeare and Medicine." The volume thus includes contributions of high scientific and literary value, and should be widely read and enjoyed.

The publication of a second edition of Dr. MILDRED E. STALEY'S *Handbook for Wives and Mothers in India*[6] indicates that the work has met with appreciation. The book, as befits its purpose, is written in a plain and simple style, and takes into account the circumstances and perils to health of life in India, its main design being the preservation of health and the prevention of disease. The opening chapters are devoted to general and personal hygiene, brief notices being added of the more common tropical diseases and of the treatment of the sick, both regimenal and medicinal. No mention is made of venereal diseases, which are rife in the East, and which sometimes seriously compromise the health and constitution of both women and children. Part II concerns the physiology and pathology of the female reproductive organs and the influence of disorders of these on the nervous system and general well-being. The information imparted and advice tendered are calculated to be easily understood and usefully applied. The subjects of pregnancy and parturition are dealt with in considerable detail in Part III, and expectant mothers will derive from these chapters very valuable hints conveyed in intelligible language. Part IV sets forth the management and feeding of infants, their ailments, and the prevention and treatment of these. The author lays great stress upon the advantage of nursing by the mother, or, failing her, by a wet nurse, the services of whom are easily procured in India. The difficulties and disappointments of artificial feeding are truthfully acknowledged. The use of a "standard diet" for artificial feeding is hopeless without the possession of a standard stomach. The selection of the food that will agree with a particular stomach is often a matter of repeated and varied trial. Dr. Staley's book can be recommended with confidence to mothers and nurses in India, but it cannot, and is probably not meant to supersede the attendance of the doctor.

The thirty-fifth edition of Professor BOUCHARDAT'S well-known *Formulaire*[7] is packed from cover to cover with all the information about drugs, prescriptions and special methods of treatment that the French medical student or practitioner would wish to find in it. The book has been brought thoroughly up to date, a list of two or three hundred additions of all sorts that have been made in this edition proving that little that is new in treatment has escaped the attention of the editors. The book has an excellent index, but, apparently, no table of contents, so that the pages devoted to such subjects as urinary tests, antiseptic dressings, periods of quarantine or isolation, the use of cold in acute illnesses, grape cures, and the like, will often escape notice because their presence is not suspected by any but those who already know their way about the volume. It may be cordially recommended to all medical men who wish to learn how well the arts of prescribing and treatment are understood in France.

The authoress of *Clinical Notes for Probationers*[8] sets out to give nurses a quantity of theoretical knowledge of medicine and surgery wherewith to eke out the instruction usually given to them by hospital lecturers. It contains four chapters dealing with the general observation of patients, both medical and surgical, accidents and emergencies, medical nursing, and drugs. At the end is a brief glossary of technical terms and surgical operations. The booklet contains a deal of useful information, and is clearly written. It should be of considerable service to nurses and probationers.

Nowadays income tax is being deducted, where possible, at the source, at the rate of five shillings in the pound. Yet all whose incomes are below £2,000 can recover at least a portion of the amount deducted. A brief manual[9] on the recovery of income tax has been published by Messrs. Mathieson. The subject is extremely complex; the little book expounding its intricacies should be of service to those who want to know how best to set about the task of recovery.

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[3] *A Spiritual Pilgrimage.* By the Rev. R. J. Campbell, M.A. London: Williams and Norgate. 1916. (Med. 8vo, pp. 350. 7s. 6d. net.)

[4] *Infection and Immunity: A Text-book of Immunology and Serology for Students and Practitioners.* By C. E. Simon, B.A., M.D. Third edition, revised and enlarged. London: Baillière, Tindall and Cox. 1916. (Roy. 8vo, pp. 361, 12 plates; 21 figures. 14s.)

[5] *Transactions of the Medical Society of London.* Edited by Sir John F. H. Broadbent, Bt., M.D., F.R.C.S., and H. Lett, F.R.C.S. Volume xxxix. London: Harrison and Sons. 1916. (Fcap. 4to, pp. 387: illustrated.)

[6] *Handbook for Wives and Mothers in India.* By Mildred E. Staley, M.B., L.M. Second edition. Calcutta and Simla: Thacker, Spink, and Co. 1916. (Cr. 8vo, pp. 354. 5s. net.)

[7] *Formulaire magistral Bouchardat.* Par G. Bouchardat et F. Rathery. Trente-cinquième édition. Paris: F. Alcan. 1916. (Pott 8vo, pp. 708. 4 fr.)

[8] *Clinical Notes for Probationers.* By Félicie Norton. S.P. Pocket Guide Series. London: The Scientific Press, Ltd. 1916. (16mo, pp. 136. 1s. net).

[9] *How to Claim Repayment of Income Tax for Year 1916-17.* London: F. C. Mathieson and Sons. 1916. (Cr. 8vo, pp. 94. 1s. net.)

The Hon. Rollo Russell, who died in 1914, had collected from medical and other literature a large amount of information tending to show that cancer increases in prosperous communities where too much food is eaten, and too many stimulating drinks—particularly tea, coffee, and alcohol—are drunk. The preventive measure he advised was that all states and governments should combine to educate their peoples to give up the consumption of the deadly food, deadly drink, and deadly drugs that he believed to promote the occurrence of cancer. His most recent views are put very clearly and compactly in his *Notes on the Causation of Cancer*.[10] The book may be recommended to general readers as a strong plea for temperance in victuals and drink.

The first and second volumes of the twenty-sixth series of the quarterly *International Clinics*[11] contain articles on subjects connected with medicine, neurology, public health pathology, gynaecology, surgery, and treatment, based on the literature appearing in the United States of America for the most part. Some of the articles are excellent, and many form interesting reading.

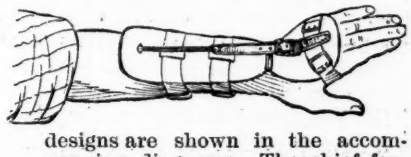
[10] *Notes on the Causation of Cancer*. By Hon. Rollo Russell. With a Preface by Dr Dawtrey Drewett. London: Longmans, Green and Co. 1916. (Post 8vo, pp. 127 3s. 6d. net.)

[11] *International Clinics*. Edited by H. R. M. Landis, M.D. Vols. I and II. Twenty-sixth Series, 1916. Philadelphia and London: J. B. Lippincott Co. 1916. (Med. 8vo, pp. 336 and 321; illustrated. 35s. net per year, 4 volumes.

MEDICAL AND SURGICAL APPLIANCES.

Wrist and Foot Drop Appliances.

Appliances for wrist drop and foot drop are made by Mr. Robert Whitelaw, 51, Woolmanhill, Aberdeen. The



designs are shown in the accompanying diagrams. The chief feature about the wrist appliance is the method of adjusting the tension of the spring. Where there is still any prospect of recovery the necessity of not at any time relaxing the extension of the wrist must be impressed upon the patient. The foot appliance, as will be seen, has a spring connected with the sole of the boot through a lever in front of the axis of the ankle, which tends to counteract the drop and lift the toe when it is raised from the ground.

THE EFFECTS OF ABOLISHING THE REGULATION OF PROSTITUTION IN COPENHAGEN.

The much debated problem whether the registration and systematic medical supervision of prostitutes has any effect on the incidence of venereal disease is still unsolved; and the most recent evidence shows how difficult it is to arrive at the truth by statistics. It was anticipated that the incidence of venereal disease before and after the abolition of the regulation of prostitution in Copenhagen in 1906 would be a valuable index to the influence, if any, of the regulation of prostitution. Some figures now available are not interpreted alike by the two parties, regulationists and abolitionists. In his report to the British Royal Commission on Venereal Disease Dr. Svend Lomholt answered the question, Has the abolition of regulation aggravated matters? with an emphatic "No." To the question, Has the new system proved advantageous, notably from the sanitary point of view? he replied with an unequivocal "Yes." In support of these contentions he quoted the weekly notification lists of venereal disease, which have long been employed by both parties in support of diametrically opposite opinions. In a letter to the journal of the Danish Medical Association, *Ugeskrift for Läger* (May 4th, 1916), Professor Pontoppidan has challenged this confident verdict on the benefits of the legislation of 1906. He considers the evidence afforded by the weekly notification lists so faulty as to be practically useless. He has relied on the statistics showing the number of cases of venereal disease treated in the communal hospitals before and after 1906. He has collected the figures for the seven years 1900–1906, and for the following seven years, 1907–1913. He admits, however, that the following table is misleading as far as the incidence of venereal disease in women is concerned, for with the sudden cessation of the systematic examination and compulsory treatment of prostitutes in 1906, the number of women treated in hospital was bound to fall, even if the actual amount of disease among the women of Copenhagen remained as before.

Men.

	1900-1906.	1907-1913.
Total number of cases	6,048	9,196
Gonorrhoea	2,851	4,597
Epididymitis	1,070	1,351
Syphilis	2,600	5,629
Primary syphilis	1,404	1,961

Women.

	1900-1906.	1907-1913.
Total number of cases	13,167	5,270
Gonorrhoea	4,701	2,072
Syphilis	2,938	2,703
Primary syphilis	1,256	1,269

The great increase in the number of men treated in the seven year period after 1906 is noteworthy. Professor Pontoppidan has given the figures for epididymitis separately because, whereas patients suffering from uncomplicated gonorrhoea may often refuse to avail themselves of hospital treatment, the subjects of epididymitis among the hospital-seeking classes almost invariably submit to hospital treatment. Professor Pontoppidan argues that the total number of cases of gonorrhoea must be directly proportional to the number of cases of epididymitis in the two periods. He concludes with the guarded opinion that, though the effects of the old system were unsatisfactory, those of the new are no better.

ROYAL MEDICAL BENEVOLENT FUND.

(Concluded from p. 558.)

The following is a continuation of the summary of cases relieved by the Committee at its meeting on October 10th:

Daughter, aged 46, of M.R.C.S.Eng. who practised at Redcar and died in 1873. Owing to ill health unable to work, and only income a pension from the R.U.K.B. Association of £21. Mother has £65 per year, but is an invalid, and a sister who is a trained nurse has had to give up her appointment to look after her mother and sister. Relieved five times, £52. Voted £10 in two instalments.

Daughter, aged 31, of L.R.C.P.Glas. who practised at Glasgow and died in 1897. Up to the commencement of the war managed to earn a living by taking in lodgers and paying guests in her house on the N.E. coast of Scotland; has recently been confined to bed. Relieved twice, £20. Voted £10.

Widow, aged 69, of M.B.Edin. who practised in the Shetland Islands and died in 1907. Applicant has very indifferent health, but has tried to live on her pension of £30 from another medical charity, but owing to the increase in the price of food has got into difficulties. Relieved once (four years ago), £6. Voted £12 in twelve instalments.

M.R.C.S.Eng., aged 81, who is practising in Cornwall, and previously at Nottingham. Lost his practice through the Insurance Act, and during the last twelve months has only earned £34. Relieved twice, £20. Voted £18 in twelve instalments.

Widow, aged 71, of L.R.C.S.Irel. who practised at Walworth and died in 1915. Left unprovided for with one daughter, who is now earning her living as a clerk. Applicant's only income, the old age pension. Relieved twice, £14. Voted £12 in twelve instalments.

Widow, aged 62, of L.R.C.S.Irel. who practised in London, and died in 1893. Until two years ago applicant managed to earn her own living, but was overtaken by illness, and was operated upon, and she has been in indifferent health since. A furnished room provided by friends, but she has no income. Relieved once, £12. Voted £12 in twelve instalments.

Subscriptions may be sent to the honorary treasurer, Dr. Samuel West, at 11, Chandos Street, Cavendish Square, London, W.

The Royal Medical Benevolent Fund Guild is now called upon, as a result of the war, to deal with many widows and children who, in happier times, would not have thought of asking for assistance. It is glad to receive secondhand clothing and household linen. The class of clothes most wanted is that suitable for boys and girls working in offices, for women, and for old men. The gifts should be sent to the secretary of the Guild, 43, Bolsover Street, W.

British Medical Journal.

SATURDAY, OCTOBER 28TH, 1916.

"THE KINETIC DRIVE."

THE interesting speculations, conjectures, hypotheses, and references to experiments of Dr. Crile expounded in the "Wesley Carpenter" lecture concerning the inter-relations of the brain, the thyroid, and the adrenals as "the master key to the automatic action of the body" should, from their boldness of assertion and novelty, attract attention.

The lecture was delivered before the New York Academy of Medicine last year, and in a prefatory note to the volume in which it has now been published,[1] the author states that "it is in effect an epitome of a monograph which will offer the complete experimental evidence upon which the themes and postulates contained therein are founded."

The term "kinetic drive" implies an increased transformation of latent into active energy. Dr. Crile conceives that certain parts of the brain serve as the driving force which causes the transformation within the organism, and that in the brain structure is found the mechanism which makes the final manifestation of the transformed energy specific to the environmental contact which initiated the drive. He divides the initiators of the kinetic drive into contact ceptor stimuli, distant ceptor stimuli, and chemical ceptor stimuli. In other words, the brain, by means of the senses, is the organ of external relation. Dr. Crile declares that at the present time the great war is a mighty stimulus to the conversion of human latent into active energy, and we might add, to its wasteful dissipation. There is nothing new in this proposition, for it is generally recognized that the two great fundamental principles of life, whether animal or human, are the preservation of the individual and the preservation of the species. The driving force actuating all human beings is, then, the desire to live and reproduce, and this principle underlies the struggle for existence of nations as well as of individuals.

Man, by the great development of his brain, is enabled by voluntary attention to make innumerable new sensori-motor adaptations to environment involving continuous transformation of latent into active muscular energy; but this voluntary attention has its roots in that spontaneous attention which ministers to the desires necessitated by the organic needs common to animals and human beings. The subjective feeling of this transformation of energy by voluntary attention is conscious effort; and if the recuperation of neuro-muscular energy and elimination of fatigue products is not automatically effected by rest and normal sleep, this subjective feeling of conscious effort is accompanied by a sense of fatigue and exhaustion which is protective.

Dr. Crile maintains that the neural activity incidental to psychic processes serves as a stimulus to the adrenals, causing a liberation of adrenin into the blood. The work of Cannon and Elliot supports this view, particularly in regard to the emotion of fear; but, as Mr. Shand has pointed out, instinctive reaction to fear may be either concealment, flight or fight. But (and Dr. Crile does not mention this fact) in the case of instinctive concealment the emotion of fear may result in paralytic immobility and suppression of the kinetic drive, whereas flight, or fight when escape is impossible, necessitates an increased liberation of muscular energy.

We may, then, assume that the amount of adrenin liberated in paralytic fear is diminished, whereas in the case of flight or fight the amount of adrenin is largely increased, and its mobilization causes an increased conversion of glycogen into sugar—the source of heat and muscular energy. But the emotion of anger also increases the kinetic drive, and therefore it is probable that a judgement of value for the preservation of the individual, acquired by instinctive reaction or voluntary variations of adaptation to this end, rather than a particular emotion, is the determining cause of mobilization of the adrenin.

Dr. Crile supports his theory of the inter-relation of the brain, the adrenals and the liver, in the transformation of latent into kinetic energy, by showing the effects of exhaustion on the cells of these organs, and photomicrographs are given illustrating the histological appearances presented by normal organs compared with those exhausted by the kinetic drive under unfavourable conditions of recuperation.

He has selected the Purkinje cells of the cerebellum as the indicator of the exhaustion of the neurone kinetoplasm. He also shows that the same conditions of exhaustion of the cells of these organs may be effected experimentally by an acid condition of the blood, and it may be implied, therefore, that the fatigue products accumulating in the blood cause an acidosis which plays an important part in the process of exhaustion of the materials necessary for the "kinetic drive."

Amongst the interesting illustrations is a series of three photomicrographs prepared from the above-mentioned organs of a soldier who had suffered from hunger, thirst, and loss of sleep during the memorable forced march from Mons to the Marne. In this great battle he was wounded by the explosion of a shell, lay for hours waiting for help, and died from exhaustion soon after reaching the ambulance. Dr. Crile will, no doubt, give later more precise details of the method of preparation, and the elimination of possible fallacies, such as might arise from septic absorption or *post-mortem* decomposition. In any case we agree with him that a unique opportunity now occurs of studying the behaviour of the human mechanism under the strongest physical and psychic stress.

Dr. Crile assumes that there is evidence to show that the thyroid gland is essential for the production of the kinetic drive. There is some histological evidence forthcoming, to which he does not allude, in favour of the iodothyrin being necessary for the kinetoplasm of the motor neurones. Thus, Mott has shown in a number of cases of myxoedema that there is a marked chromatolysis with eccentric position of the nucleus of the motor neurones of the brain and medulla.

We hardly think that surgeons or physicians in this country will consider that Dr. Crile's ingenious theory of the kinetic drive rests on a sufficiently sound basis to permit them to accept as justifiable the removal of one adrenal, division of the cervical sympathetic trunks, together with excision of approximately three-fourths of the thyroid, for the treatment of epilepsy, even though the operation be performed in successive stages. Thirty years ago Alexander claimed that operations such as tying the vertebral arteries or

[1] *The Kinetic Drive: Its Phenomena and Control* By G. W. Crile, M.D. The Wesley M. Carpenter Lecture before the New York Academy of Medicine, 1915. Edited by Amy F. Rowland, B.S. Philadelphia and London: W. B. Saunders Co. 1916. (Post 4to, pp. 71; illustrated. Cloth, 8s. 6d. net.)

removal of the superior cervical sympathetic ganglion had been followed by cessation of fits. We predict that Dr. Crile's venturesome treatment will similarly be given up and forgotten.

In conclusion, we wish the author before launching in lecture form the theory of the kinetic drive had published his monograph setting forth in detail the evidence upon which it is based, for without this it is impossible to criticize it or even comment upon its validity.

ALLEGED ADVANTAGES OF THE COMPULSORY NOTIFICATION OF VENEREAL DISEASE.

A LETTER calling on the mothers and wives of the empire to demand the compulsory notification and treatment of venereal diseases was published at the end of last week. It is signed by a large number of women who have either earned distinction themselves, and they form the majority, or are the wives of men of eminence in various callings. The signatories are dissatisfied with the recommendations of the Royal Commission. They do not think that one in a thousand of the public will be reached by lectures and private admonitions, and state that "even warnings are libellous before the law." They find it almost incredible that men and women known to be infectious should be at liberty to spread the contagion when and where they will, and allege that the disease is now very largely spread by girls of between 15 and 18 years of age. "Can we," they ask, "wait while these mere children, caught perhaps innocently or in a moment of madness, become the mothers of the future generation, and give birth to children more miserable than themselves?" They lay a good deal of stress on indirect contagion as by "kissing an infected person, by surgical or dental instruments, by razors, combs, brushes, forks, spoons, drinking vessels, pipes, towels, clothing, many industrial implements, etc."; and conclude that "by contagion, or for hereditary reasons, innocent persons are constant sufferers, and it is the first duty of the State to protect them."

If the general truth of all this be granted—and nearly all of it may be granted, the only doubt being as to whether the frequency of innocent infection, other than hereditary, may not have been, by implication, somewhat exaggerated—and we ask for the remedy, all that is suggested is contained in the following sentences: "The obvious remedies for every contagious disease are notification and compulsory treatment, and other dangerous and contagious diseases are thus treated. The evidence is so strong under our personal observation that we believe when the general public become alive to the grave dangers arising, notification of all infected persons will be demanded, as the Commission states. Time is short, and that demand should be made now, or it will be too late." The meaning of the last sentence appears to be that the signatories believe that venereal diseases are becoming increasingly prevalent, for in another part of the letter they say: "The disease [syphilis] is certainly spreading, and that is why we suggest that something should be done immediately." The Royal Commission was unable to obtain reliable statistics and refrained from expressing an opinion one way or the other. It reported, however, that the statistics for the Navy and Army, before the war, indicated a very satisfactory decline, and it is significant that the number of army recruits rejected for syphilis fell from 0.63 per cent. in 1890 to 0.14 per cent. in 1911–12, and that the decrease was fairly uniform throughout this period. But though there may be no statistical evidence that venereal diseases are increasing in this country nobody doubts that they are so extensively prevalent as to constitute a serious menace to the public welfare. The conclusion of the Royal Commission on this point was expressed in the following sentence. "While we have been unable to arrive at any positive figures, the evidence we have received leads us to the conclusion that the number of persons who have been infected with syphilis, acquired or congenital, cannot fall below 10 per cent. of the whole population in the large cities, and the percentage affected with gonorrhoea must greatly exceed this proportion."

The arguments against compulsory notification are well known. That which has most weight with public opinion is the risk of concealment, and consequent failure to obtain adequate treatment, which is a first essential in the interest of the individual and the family and an important part of any plan of prevention.

The National Council for Combating Venereal Disease has issued a kind of counterblast to the women's manifesto, and its letter is also signed by women well qualified to form an opinion. Compulsory notification, they say, "is obviously only one of many means to an end—the suppression of these diseases—and a much more comprehensive scheme is necessary if that end is to be attained. To be effective, the scheme must, in our judgement, include as the first and most necessary measures: (1) The provision in every area of adequate facilities for prompt diagnosis and efficient treatment, free of charge. (2) The prohibition of quack treatment. (3) The granting of privilege to any communication made in good faith by a medical man in order to prevent the spread of infection. Notification must be futile unless accompanied by police measures for enforcing treatment, which could not be given until full facilities had been made available to all classes. When these facilities have been provided, the question of compulsion can be considered."

The Contagious Diseases Acts were, in part of their machinery, an experiment in compulsory notification. They were abrogated in the country mainly for two reasons: first, that they seemed to involve the assumption that prostitution was a necessary institution; and secondly, because in practice they applied only to women known or suspected to be following a course of life likely to lead them to contract and disseminate venereal diseases. The general experience of this and other countries is by no means conclusive that police measures of this nature are effective in checking the prevalence of these diseases. We publish elsewhere a note on a careful analysis by Dr. Pontoppidan, Professor of State Medicine in the University of Copenhagen, of the statistics for seven years before and seven years after the abolition of the registration and medical supervision of prostitutes. Taking primary syphilis alone, they show an increase in the seven years after the abolition of control of about 25 per cent. among men, and a slight increase among women, but taking all cases of venereal disease they show a very large increase among men, and an immense decrease among women. Professor Pontoppidan points out that with the sudden cessation of the systematic examination and compulsory treatment of prostitutes a sudden diminution in the number of women treated in hospital was to be expected, even if the actual amount of disease among them remained as before. The Copenhagen statistics, therefore, like all others hitherto produced, are inconclusive, and all their compiler can say is that though the effects of the old system were unsatisfactory those of the new are no better.

Compulsory notification would apply to both sexes, and such a verdict does not encourage a hope that compulsory notification and treatment can be trusted to produce results which outweigh the ethical objections which apply particularly in the case of women, and the practical objections that, especially in regard to concealment, apply to both sexes. The signatories of the letter of the National Council conclude that "notification would be futile unless accompanied by police measures for enforcing treatment." The meaning of the term "police measures" is not defined, but at the meeting at the Mansion House on October 24th the Home Secretary suggested that an Act of Parliament should be passed making it an offence for a person knowingly and deliberately to do anything calculated to transmit venereal disease to another person, and that this should apply to the act of solicitation for prostitution. Such an enactment would be more or less in the line of the provisions of the Public Health Acts, which make it an offence for a person suffering from a dangerous infectious disorder, or anyone in charge of such a person, wilfully to expose himself or his charge in any public place without taking "proper precautions against spreading the said disorder." Mr. Samuel admitted that it might be difficult to prove knowledge, and the suggestion appears to go beyond the recommendations of the Royal Commission, but he suggested a special application of the principle which would be on all fours with recommendations of the Commission. He advised that men and women in prisons or other institutions, by which is to be understood apparently Poor Law institutions, who when medically examined were found to be infected, should be given a certificate to this effect which could be used as evidence of knowledge should they afterwards be charged with the offence of disseminating the disease. The Commission indeed advised that the applicability of the section of the Poor Law Amendment Act 1867 to secure the detention of Poor Law patients suffering from venereal disease should if necessary be made clear by legislation, but it did not consider it practicable in present circumstances to apply a general rule for the detention of prisoners suffering from these diseases.

TRAINING OF THE DISABLED SOLDIER.

At a meeting of the Association of Technical Institutions on October 21st Major Robert Mitchell, director of education at the Polytechnic, Regent Street, London, read a paper, in which he said that in every local centre an advisory committee—consisting of doctors, employers, and employees—should be formed to select disabled men to be trained in suitable workshops. There were, he said, at least 150 technical schools which could be utilized for this purpose. Sir Alfred Keogh, who presided, said that the two great problems were continuous treatment and training, and the provision of employment. After pointing out that the modern army differed from the regular army before the war in that it included every class of society, and that the training required for clerks and men of higher education was different from that for men who would engage in manual employments, he said that he fully recognized that no movement for the training of men who had left the army could be successful without the co-operation of the heads of the technical institutions. Many discharged soldiers would require prolonged treatment, extending, perhaps, to a couple of years, and he held that treatment and training should go together. It was not possible for the army to establish institutions for treatment and training except in large camps in the country, far from technical institutions and centres of industry. The local pensions committees should have three subcommittees dealing respectively with pensions, treatment, and training. The treatment and training should be given in the great centres, where, in fact, most of the men lived and where there were hospitals. The class of man who lived in agricultural districts would have to be brought, if necessary, with his family into the great centres and maintained there until the treatment and training were complete. This meant that the technical institutions must be intimately associated with the hospitals. He felt sure that the resources of the army, which were very large, would all be placed at the disposal of the discharged soldier for as long as might be necessary, just as if he were a serving soldier. The experts of the country were at the hospitals already, and the men would there get the best care and attention that could be given. The Army Council was making arrangements to establish in connexion with its orthopaedic hospitals workshops for curative treatment; it was better to provide these manual curative workshops than machines for orthopaedic exercises. The opportunity would be taken at the military hospitals for starting the training of the men in certain industries, but the primary object of military hospitals was to get men back to the ranks. We had not half beaten the Germans yet, and the training of men who had been discharged should be placed in the hands of such a body as the Association of Technical Institutions, that is to say, the training must be in the hands of men accustomed to training, and the great technical institutions were the proper bodies to train the soldier. It was very important that treatment and training should go on together; without continuous training men would never be able to follow such trades as were proposed, and most of them could be very greatly improved by continued treatment. In speaking of technical institutions he included the agricultural colleges, where men could receive the highly technical education necessary for agriculture or horticulture. In the discussion it was stated that men had failed to respond readily to offers of training owing to the existence of the mistaken idea that allowances or pensions would be reduced in proportion as earning power increased. The meeting adopted resolutions pledging the association to do all in its power to place the resources of the technical institutions at the disposal of the authorities for training purposes, and inviting agricultural colleges to affiliate themselves to the association.

THE CLERGY AS HEALTH MISSIONARIES.

The "failure of the Churches" is a favourite text of the Jeremiahs who fill the newspapers with lamentations over the general rottenness of things in these evil days. It is scarcely within our province to discuss the question whether Christianity has failed, as many in their haste declare, but, assuming that there is some ground for complaint of the inefficiency of the churches, we may be allowed to point out that one possible cause is the want of interest in health problems displayed by ministers of religion as a body. This is admitted by leading men in the Church. The other day Canon Carnegie, Chaplain to the House of Commons, speaking of his own experiences in Birmingham, told an interviewer that so far as the Church's teaching deals with conduct it has tended to limit its view to the personal and domestic virtues, and to leave out of account the larger social duties and responsibilities. As an organized social power, he said, the Church is strangely ineffective. The clergy knew that within the areas in which their churches were situated the drink evil was rampant, and that in many of them slum dwellings existed unfit for the habitation of brute beasts. But they also knew that so far from being the head centres of the movement for social amelioration, they were hardly taken into account by those interested in that movement. We welcome as another sign of awakening to the importance of the matter a resolution adopted on October 20th by

the Manchester Diocesan Conference calling on all churchmen in the diocese to interest themselves effectively in the improvement of housing conditions. We hope this example will be widely followed by other ecclesiastical bodies, and that the good resolutions will be translated into effective corporate action. The dirt and squalor so painfully in evidence in countries where the priesthood holds sway over the minds of the people are in large measure due to the intensity of a faith which makes them feel the futility of things that merely concern a brief life on earth. This indifference is one of the "notes" of the theological mind, and tends to put it out of sympathy with the medical profession, whose aim is the prevention of disease and the increase of physical well being. It is, perhaps, not too much to say that the clergyman is often a little suspicious, if not actually jealous, of the influence of the doctor, who has not yet wholly outlived the effect of the mediaeval libel, *Ubi tres medici, duo athei*. But although it may be admitted that, like Chaucer's physician, the modern mediciner's "studie is litel on the Bible," we hold that in the highest sense of the word—the sense which teaches that

> He prayeth well who loveth well
> Both man and bird and beast—

the doctor is by his profession the most religious of men. The attitude of the clergy is unfortunate, as they might be most powerful allies of the medical profession. They would be more disposed to help if they realized that war against disease is to a large extent war against sin. As Johnson said, every man is a rascal when he is sick, meaning that a bad condition of body breeds an unholy and malevolent state of mind. Sydney Smith studied medicine, as he felt that such knowledge would increase his usefulness as a parson; and his experience led him to say that the longer he lived the more convinced he became that the doctor is of more importance than Seneca. We wish that all of his cloth were equally enlightened. If the clergy take so small a part in the campaign for the sanitary betterment of the people, this is, to some extent at least, due to their ignorance of the aims and methods of sanitarians. Instruction in hygiene should, therefore, be an integral part of the training given in theological colleges. Clergymen need not be experts in sanitary science, but they should understand its principles and the main facts concerning the conservation of the health of the community and the individual. We are sure this would make their ministry more fruitful in every way. Efforts to arouse in them as a body an active interest in the subject have from time to time been made, but the results have, on the whole, been disappointing. In 1892 the Lower House of Convocation of the Province of York unanimously passed resolutions calling for some definite action by the Church in view of the dangers to health and morality caused by insanitary houses and overcrowding. The resolutions found little support in the Upper House, but the Archbishop promised to consider the matter. Nothing, however, seems to have come of his consideration. In 1887 the very step we now urge on the churches in this country was taken in Portugal. Cardinal Americo, Bishop of Oporto, founded at his own expense a chair of hygiene in his diocesan seminary of Carballos. He enacted that no candidate for holy orders should be ordained priest without giving proof of a knowledge of the principles of hygiene. This brought a good deal of adverse comment on the head of the enlightened prelate; and, as far as we are aware, he found no imitators among his episcopal brethren in Portugal or elsewhere. This suspicion of medicine among the modern clergy is all the more remarkable in view of the importance assigned by Moses to sanitation, and by the attitude of the early apologists for Christianity. Tertullian and Clement of Alexandria are full of medical illustrations, and others of the Fathers show a clear understanding of the value of hygiene.

GERMAN TREATMENT OF PRISONERS.

Mr. J. F. Hope stated in the House of Commons on October 17th that the latest reports from the United States Embassy at Berlin showed that the treatment of British prisoners in Germany has somewhat improved. This is confirmed by men who have lately come home. That there was a crying need for improvement is shown by a report by the Government Committee on the treatment by the enemy of British prisoners of war, on an epidemic of typhus at the Gardelegen camp, which has just been issued as a White Paper. The outbreak occurred in the early part of 1915, and the main facts were published in a paper by Major P. C. T. Davy and Captain A. J. Brown, R.A.M.C., which appeared in the British Medical Journal of November 20th, 1915, p. 737. That paper, which is a purely scientific report, and is written in a tone of studious moderation, gives only a faint impression of the horrors of Gardelegen, a name which will henceforth take its place by the side of Wittenberg in the records of German infamy. It is virtually the same story of cowardice, incapacity, and brutality. The Germans, including the medical staff, and even the women employed in the kitchens and the orderlies, fled hastily, leaving the sick unattended till British, French, and Russian doctors were placed in charge. According to Mr. D. Thomas Curtin, the American journalist whose articles give a vivid impression of the state of things in Germany, the improvement in the treatment of prisoners now reported is due to a change that has come over the spirit of the Teuton's dream as the result of the large captures of Prussian Guards made on the Somme. Writing in the *Times* of October 18th he says that since then a number of really excellent camps have been arranged to which neutrals are taken. He visited Soltau, a veritable city which has sprung up on the Lüneberg Heath five hours from Berlin, "with the speed of a boom mining town in Colorado." Mr. Curtin found nothing wrong in the camp, which has 31,000 inmates of whom 200 are British; our countrymen there are as well treated as any in Germany. This cautious statement does not perhaps amount to much, as in the same article he says that the British, though by far the least numerous among the prisoners in Germany, are much the most highly prized for propaganda purposes. He adds that, although Soltau and other camps are satisfactory, "there are others, many, many others." It is a matter of common knowledge throughout Germany that the most loathsome tasks of the war in connexion with every camp are given to the British. Officers and men are utterly weary of the privation, imprisonment, monotony, and hardship they have to endure. It is hard, says Mr. Curtin, to see these men slowly ageing amidst harsh surroundings while the German prisoners in England are, as he heard in Germany, bountifully fed and well cared for. He is convinced that the policy of indulging the German prisoners while they illtreat ours is mistaken. As the number of Germans in our hands now exceeds that of British prisoners in Germany, we could secure equal accommodation and equal treatment not only at Ruhleben but in all the German camps. "But," says Mr. Curtin, significantly, "you will not get it by trying to stroke the German tiger's back and making him purr." While testimony from all sides shows that the British have been treated with special cruelty in German camps, other nationalities have had much to suffer. *Le Journal* of October 19th published a circular of the German Ministry of War relative to French prisoners interned in the so-called reprisal camps in Russian Poland, and Courland. The document, which is dated "Berlin, April 25th, 1916," directs that the prisoners are to be housed in huts or tents, unheated and dimly lighted; the supply of water and soap is to be insufficient; the confinement is to be as strict as possible; no communication with the civil population is to be allowed; the prisoners must work nine hours a day without rest; their food is to be vegetables

especially peas; they are to have no hot water; the canteen is to be of the most limited kind; the sale of dainties and fruit is forbidden. No clothing but undergarments is to be supplied; no music, singing, concerts, or games are to be allowed. For long punishments bad localities are to be selected; the lightest punishment is to involve deprivation of food. This order is conceived in the true spirit of the German gaoler. The object is to destroy the constitution and break the heart of the captives; even the consolation of religion is withheld from them, for it is expressly enjoined that no Mass is to be allowed. It is gratifying to learn that the unhappy prisoners who have gone through this martyrdom are to be returned to their original camp where the severity of their treatment will be relaxed.

STERILIZATION AND SUTURE.

DR. DEPAGE is one of the latest converts to the principle of the secondary closure of war wounds after cleansing, excision, and disinfection by a hypochlorite solution, which is now so extensively used in British military hospitals in France. He studied the method at the hospital at Compiègne, of which Dr. Carrel is the chief surgeon, and in a communication to the Société de Chirurgie de Paris[1] he enlarges upon the importance of controlling the method by bacteriological observations made by taking a smear from the wound every other day, and counting the number of microbes in a field. Depage's observations were made at the hospital at La Panne, and the bacteriological work has been done by Dr. Govaerts, who finds that during the first six days after the wound the exudation consists chiefly of polynuclear cells, and contains an enormous number of microbes. About the sixth day the polynuclears begin to disappear, their place being taken by mononuclear cells, and the microbes diminish. After the tenth day macrophage cells appear, and the few microbes to be seen are all of them included in the phagocytes. The appearance of the macrophages, therefore, is the sign that the wound is approaching the condition of asepsis. Charts are kept of the number of microbes, as in the British military hospitals; smears of the exudate when the patient is first admitted show in the majority of cases no microbes, the wounds being covered with blood, which is always aseptic. On the second or third day the number of microbes rapidly increases, reaching as many as one hundred, two hundred, three hundred, and even one thousand microbes in a field. It remains at this high level for some days, and then begins to fluctuate, with a general downward tendency. Wounds of the soft tissues were found to become practically sterile at the end of six days. In anfractuous and badly contaminated wounds this condition of practical asepsis is attained later, and in cases of compound fracture the period may extend to a month. If any sequestrum is present, it must be removed before practical asepsis can be attained. If the use of the hypochlorite solution is discontinued, the wound quickly becomes infected again. Depage, therefore, distinguishes three periods: The first that of acute infection, when the microbes are very numerous and virulent. Suture at this period is always unsuccessful, and may be followed by serious complications. The second period is one of attenuated infection; the microbes are less numerous and less virulent. Suture at this time only rarely succeeds, and may be followed by a return of the acute infection. In the third period the wound is aseptic, or so nearly aseptic that it may be sutured, but Depage advises that, in the case of bone lesions, it is prudent to wait for two or three negative results. He reports the results in 137 wounds closed on this principle by suture. In 112 the success was complete; in 23 it was partial, but in many of them there was no more than a failure of a few stitches to hold owing to skin tension or to slight suppuration. In such cases rapid healing was obtained by the use of a hypochlorite liquid (Dakin's). Two cases failed, and in both the failure was due to the tension of the skin being too great. In closing the wound Depage does not, as a rule, remove granulations, but brings the skin over them. In some cases he has found it necessary to loosen the skin and slide it forward, and in others to transplant.

[1] Bulletin XLII, No. 30, August 29th, 1916.

THE ANTHROPOMETRIC SIDE OF RECRUITING STATISTICS.

IT was recently announced that the Secretary of State for War had formed a new department for the collection of statistical information, and had appointed Mr. H. J. Creedy, of the War Office, to take charge of it. As Mr. Creedy is an experienced civil servant, but not, we believe, an expert statistician, it may be presumed that the new department will be charged principally with the compilation of returns which, although of great administrative importance, do not call for any special skill in the analysis of numerical data. There are, however, certain classes of statistics accumulated in consequence of the war which fall into a different category. At an early stage it became obvious that the invalidity and sickness data would not only be very numerous, but also very intricate, and would demand the special skill in reduction and analysis which is only possessed by a small number of experts. The Army Medical authorities took advantage of the services of the Medical Research Committee's investigators, with the result that the sickness and casualty data are being compiled under the supervision of Dr. John Brownlee, Statistician to the Committee. The statistics of recruiting do not, however, seem to have shared the benefits of this arrangement. Under the Military Service Acts all males of military age, not already with the colours nor exempted by the tribunals, are required to present themselves for examination before a medical board. The nature of the particulars recorded and their exactitude perhaps vary, but, in the aggregate, a vast amount of statistical information has been and is being registered. The national importance of such data is considerable. Were all males of military age submitted to an identical examination, and such particulars as height, weight, chest dimensions, visual acuity, eye colour, etc., recorded, the data would form an ideal basis for an anthropometric survey of great interest; it might prove possible to contrast the physical types of natives of different portions of the United Kingdom, to compare the average characters and proportional fitness of men in different trades, and even to tackle the moot problem as to the relative values of different types when exposed to the physical and mental strain of active service. This ideal cannot of course be attained. Data collected under the pressure of work from which no recruiting medical boards are free cannot be expected to reach the required standard of fullness and accuracy. Further, before the real significance of any averages could be determined, allowance must be made for the double process of selection the examinees have undergone. In the first place, large numbers joined, or attempted to join, the army before compulsion was instituted; and, in the second, not only does the ease with which exemptions are granted vary from tribunal to tribunal, but men following certain occupations are more likely to be exempted by any tribunal than those engaged in other trades. To make the due allowances would tax the powers of experts in statistical science, and those unversed in statistical methods would find the task hopeless. It is, accordingly, obvious that the data would have to be handled by thoroughly competent medical statisticians, familiar alike with statistical methods and the technique of medical examinations; it is probable that, if so handled, they would yield results of great interest. It will be said that the energies of the officers are already fully

occupied with matters of more immediate importance, and that the data can be left to accumulate until peace brings leisure. These objections are not wholly valid. With regard to the first, it is to be remembered that an expert staff already exists in the form of the Medical Research Committee's Statistical Department, that this staff is already tabulating the sickness and casualty data, and, possibly with some addition to the personnel, might well undertake the codification of the recruiting data. With respect to the second point, the advantage of placing the data at once in the hands of the expert lies in the fact that slight modifications in the form of the records or possibly a special investigation of some particular sample, by way of control, might make all the difference to the value of the final result. Nearly every statistician who has had to report upon a collection of data has been beset with doubts, which might have been removed by a few simple inquiries when the data were in process of collection, but must remain insoluble when he is dealing with the matter *ex post facto*. It appears, then, the utilization of recruiting statistics might disclose information of national value, that machinery for the performance of that analysis exists, and that the material with which it could deal is in danger of accumulating into an unmanageable mass.

WORK AND OVERWORK FOR JUVENILES.

The demand for juvenile labour is being loyally responded to, but there is great need for careful regulation of the hours of work if the supply is to be kept up to the required standard. The memorandum[1] recently issued by the Health of Munition Workers Committee, dealing with the subject of juvenile employment, points out in considerable detail the many difficulties that have to be overcome in order to keep young workers of both sexes in sound health under the existing conditions of labour. Boys and girls living at home but working all day in factories or workshops are under double control. The regulation of their daily round of work can be fixed by the authority of employers, but the hours for rest and recreation may be well or ill spent according to the example and influence in the home. In too many households the father has been called away to military duty, the mother is overburdened with domestic cares, and the children are only too ready to seek change and recreation in the streets or in the picture shows. The direct result of this is to shorten the hours for sleep to the detriment not only of their own physical well-being, but also of the quality of the work they turn out. Youth is remarkably adaptable to changing conditions, but sleep is an essential element of sound health. In a very large number of workmen's houses the sleeping accommodation is overcrowded, and undisturbed sleep is at the best of times difficult to secure. But long hours of labour and short hours of rest must in the long run lead to breakdown, or at any rate to serious impairment, of physical vigour. Hence the Committee has strongly urged the paramount necessity for rigid limitation of the labour hours and for due allowance of time and opportunity for mental and bodily refreshment and rest. The abolition of Sunday labour for juvenile workers, the curtailment of night work to the lowest possible degree, and the provision of reasonable intervals between one spell of work and another, are the main points upon which the Committee insist. Young folks of both sexes suddenly plunged into the whirl of adult life stand in great need of guidance, more especially if home influence is withdrawn. In some establishments the institution of welfare visitors has been attended with excellent results. A tactful adviser may render most valuable service by observation of individual character and by helping those who most need assistance to avoid evils that they do not recognize, and to make the most of their opportunities for improvement as they occur. The comparatively high wages which are being paid to quite young workers are an additional source of danger and are likely to lead to extravagant expenditure or to gambling, if inclinations in such directions be not counteracted. A welfare visitor must be possessed of no small degree of tact and forbearance. On the one hand he or she must keep the interests of the young employees in view, while on the other the demands of the manager or foremen have to be recognized and their goodwill enlisted if recommendations with respect to individual cases are to be regarded. However willing the juvenile worker may be, the sudden transition from the school to the workshop, involving the study of entirely new conditions, would seem to call for regular tuition in order that the manual work may be undertaken with some degree of intelligence. Evening classes have been proposed to meet the difficulty, but such classes would be absolutely useless to those who had already been working for ten hours. For many months to come there will doubtless be an ever-increasing call for juvenile as well as adult labour, but its full effect, both as to quality as well as quantity, will largely depend upon the maintenance of bodily and mental vigour in the workers. Neither men nor women can produce their best work for long together if their labour is not duly balanced by rest. In the case of children it would be the acme of false economy to overdrive the willing young horses.

[1] Ministry of Munitions: Health of Munition Workers Committee. Memorandum No. 13. Juvenile Employment. H.M. Stationery Office [Cd. 8362]. Price 1d.

THE DIAGNOSIS OF BACILLARY DYSENTERY AND ENTERITIDIS INFECTIONS.

With a view to the convenience of bacteriologists at military hospitals and the co-ordination of results obtained by different observers at different times and places, the Medical Research Committee made arrangements some time ago for the preparation and supply of sterilized standard agglutinable cultures and standard agglutinating serums for the diagnosis of certain intestinal infections by means of macroscopic agglutination tests. The preparation of standard cultures and serums carried out in the Department of Pathology, Oxford, under the direction of Professor Dreyer, has now been extended to include *B. dysenteriae* (Shiga, Flexner, and Y), and *B. enteritidis* (Gaertner), in addition to *B. typhosus*, *B. paratyphosus* A, and *B. paratyphosus* B. The standard cultures and serums will be supplied by the Medical Research Committee free of charge to pathologists working in connexion with military hospitals. Applications for standard cultures or serums should be addressed to the Standards Laboratory, Department of Pathology, University of Oxford (telegraphic address, "Pathology, Oxford"; telephone, Oxford 467). To facilitate the performance of agglutination tests under service conditions or otherwise, a special outfit has been prepared. This consists of a special stand, dilution tubes, agglutination tubes, and two dropping pipettes, which can be obtained free of charge by pathologists working for military hospitals upon application to the Medical Research Committee, 15, Buckingham Street, Strand, W.C., or may be purchased from Messrs. Baird and Tatlock, 14, Cross Street, Hatton Garden, E.C., or from Messrs. R. B. Turner and Co., 9, Eagle Street, Southampton Row, W.C., price 4s. 6d. each set. Full directions for use are sent out with each set of apparatus and with all standard cultures. Under service conditions the standard agglutinable cultures will be supplied in quantities sufficient for all ordinary routine work. When application is made for them the probable weekly number of agglutination tests to be made should be stated. The standard agglutinating serums for *B. dysenteriae* (Shiga, Flexner, and Y) and *B. enteritidis* (Gaertner) will be provided either for the identification of these several forms or for use in the standardization of killed agglutinable cultures. The use of the standard

agglutinable cultures, with the set of apparatus as provided, is believed to offer the following advantages: (1) The procedure is simple and rapid. (2) The materials are always ready, and no cultures have to be incubated and prepared. (3) The culture is killed, and all risk of infection is absent. (4) The reaction can be carried out at any temperature between 35° C. and 56° C., or even at room temperature if necessary. (5) No microscope is needed. (6) Owing to the precise quantitative determination which it allows, the method enables the worker to follow the course of the agglutination curves obtained by successive examinations, and thus facilitates the diagnosis of active disease. (7) The results obtained possess standard uniformity even in relatively unpractised hands, and are strictly comparable from case to case and from day to day, wherever the tests are performed. The expression of the results in standard agglutinin units allows the comparison of extensive series of observations in different laboratories and at various times for statistical or other purposes. The standardized cultures and serums already provided for *B. typhosus*, *B. paratyphosus* A, and *B. paratyphosus* B, have now been in use at the chief military laboratories engaged in work upon enteric fever cases and carriers with the Expeditionary Force and at home for over a year. It is hoped that in the interests of uniformity of results and the unification of records the new standards now made easily available may be generally adopted.

COCAINE AND UNREGISTERED "DENTISTS."

WHEN the Order in Council regulating the supply of cocaine and forbidding its sale to unauthorized persons was promulgated appeals were at once made to the Home Secretary in the House of Commons on behalf of unregistered practitioners in dentistry. As we then pointed out, the reply of the Home Secretary showed a correct appreciation of the fact that individuals possessing no qualification have no legal or moral claim to be treated otherwise in the matter than any other members of the general public. In view of the fact, however, that supplies of novocain were then restricted he eventually consented to permit unregistered dentists to purchase cocaine for a limited period which was afterwards extended to October 31st. Notices have now been given in the House of Commons, and have the support of a considerable number of members, asking the House to express the opinion that the special permit granted to unregistered practitioners in dentistry to purchase and use solutions containing not more than 1 per cent. of cocaine for purposes of local anaesthetics should be extended for a further period of six months. We do not know of any valid argument which can now be advanced in support of this contention, and hope very strongly that the Home Secretary will not give way. He has stated that it is not possible to state even approximately the number of unregistered persons practising dentistry. Any person can call himself an unregistered dentist, and could, on that ground, if the regulation is relaxed, obtain cocaine which he might dispose of as he thought fit; this would go a long way towards rendering the regulation nugatory.

Medical Notes in Parliament.

Royal Commission on Public Services in India.—In a written answer to Sir H. Roberts, on October 24th, the Secretary of State for India said that the report of the Royal Commission on the Public Services in India was being printed off, and copies would be shortly dispatched to India. It was proposed that it should be issued simultaneously in India and in this country, and the Government of India had been requested to take it into consideration with as little delay as possible.

War.

Disabled Sailors and Soldiers.—Mr. Hayes Fisher stated on October 19th, in reply to Mr. Hogge, that the scope and terms of the agreement between the Statutory War Pensions Committee and the Insurance Commissioners for a scheme of medical treatment, including specialist advice for all disabled sailors and soldiers, had not yet finally been settled.

Medical Men as Combatant Officers.—In reply to Mr. Perkins, Mr. Forster said, on October 18th, that qualified medical men serving as combatant officers in the Territorial Force had been given an opportunity of serving in the Royal Army Medical Corps. If particulars of any case of hardship were supplied he would make inquiries.

German Prisoners.—Mr. Forster stated on October 18th that, according to the latest returns, the number of German military prisoners interned was 757 officers and 38,064 other ranks, excluding those repatriated to Germany, transferred to Switzerland, or dead. There were also some prisoners in France not yet included in the returns, and a certain number had recently been released on parole in South-West Africa; in addition, there were 150 naval officers and 1,976 other ranks. The Prime Minister stated that the total number of prisoners captured by the French on the Somme from July 1st to October 12th was 40,125. Mr. Forster stated on October 19th that the number of British prisoners in the hands of the Bulgarians was 450, and that, according to the latest information, they were all to be concentrated at Philippopolis.

Typhoid and Paratyphoid.—In reply to Mr. Chancellor, who asked on October 18th for information as to the number of cases and deaths from typhoid and paratyphoid fever amongst inoculated and uninoculated men in the British army on the Western front from August, 1914, to the latest date available, the Financial Secretary to the War Office said: "Up to August 25th, 1916, 1,501 cases were finally diagnosed as typhoid fever amongst the British troops in France—903 amongst inoculated men and 508 amongst non-inoculated men. There were 166 deaths, 47 of which were amongst the inoculated and 119 amongst uninoculated. To the same date there were 2,118 cases of paratyphoid—1,968 amongst inoculated men and 150 amongst men who had not been inoculated. There were 29 deaths, 22 of which were amongst the inoculated and 7 amongst the uninoculated." Mr. Chancellor also asked the number of cases amongst inoculated and uninoculated men in the Gallipoli campaign diagnosed as dysentery, cholera, trench fever, pyrexia, typhoid, paratyphoid, and Gallipoli fever, with the mortality from each. Mr. Forster said he could give the number of cases so diagnosed, but the army had not information as to how many cases under each category occurred amongst inoculated and uninoculated men respectively.

Doctors' Motor Boat (Land Lights).—In reply to Mr. C. Wason, who asked whether a doctor, bound by the terms of his contract to keep a sea-going motor boat, was prohibited from the use of reasonable land lights, Dr. Macnamara said that the doctor must comply with any directions given by a competent authority.

Tri-nitro-toluol Poisoning.—Mr. Brace stated on October 19th that the question of T.N.T. poisoning was receiving the close attention of the Home Office and Ministry of Munitions, and special measures had been taken for dealing with it. Further modifications of the regulations were under consideration. The problem was a new one, and was made more difficult by the fact that the manufacturing processes were constantly being modified. The precautions which were now required, or under consideration, included all the measures which the experience so far obtained suggested, and further investigations and experiments with new methods and appliances were being made. Mr. Brace stated, in a written answer on October 24th, that during the quarter ending September 30th the number of deaths reported from tri-nitro toluol poisoning was 21.

THE late Sir William Henry Power, formerly principal medical officer to the Local Government Board, left estate valued at £10,199.

THE *Journal of the American Medical Association* has for fourteen consecutive years collected statistics of deaths and injuries resulting from the celebration of the Fourth of July in the United States. In recent years the number of casualties has rapidly declined, and this year not a single case of tetanus was reported. During the thirteen years preceding 1914, 1,119 cases of tetanus were reported as due to injuries resulting from the use of fireworks during the celebrations, and 991 of the patients died. In 1903 one case of tetanus resulted from every four blank cartridge injuries, and in 1909 one from every eight. The proportion in the entire thirteen years was 1 in 7.5 blank cartridge injuries. Owing, no doubt, to the more general use of antitoxin the proportion has dropped conspicuously during recent years. In 1915 there was only one case, although there were 295 blank cartridge wounds. Out of the cases of tetanus, 889, or 79.5 per cent., were caused by blank cartridges; 94 by giant crackers; 76 by powder and other explosives; 33 by firearms, and 27 by toy cannon.

THE WAR.

THE ROYAL NAVAL MEDICAL SERVICE IN ACTION.

Mr. Rudyard Kipling has shown how a plain tale told by an expert with the technical terms of his craft may give a more living picture, biting more strongly into the imagination than enthusiastic rhetoric. There are three articles in the *Journal of the Royal Naval Medical Service* for October which produce this sort of effect. We are quite sure the writers were not striving after effect; they are experts addressing brother experts upon experiences novel to all and which only relatively few naval medical officers have yet had.

The principal idea upon which all plans for handling the wounded during a naval action must be founded is to remove them from amongst the fighting men as quickly as possible so that no interference with the working of the ship can take place. The surgeon has to settle beforehand on stations to which the men can find their way if they can walk or to which they can be carried in Neil Robertson stretchers during lulls, often by devious routes, down hoists, slipped carefully down canvas chutes, and brought along cramped passage ways. Usually he establishes two such stations called by an odd inversion "distributing stations," for they are in fact reception stations, one forward and the other aft.

The places are supplied in the design of the ship, and it is rarely possible to change their position, but Fleet Surgeon John Muir, writing from experience of two important actions as senior medical officer H.M.S. *Tiger*, advises that they should be carefully examined to see whether they are really safe for the wounded or not, remembering that in the modern long-range actions there is great danger from plunging shell fire. Being doubtful about the protection of the after dressing station in his own ship, he ordered the surgeon in charge during the first action to withdraw his parties into the ammunition passages on the disengaged side. After the action the matter was discussed, and it was determined in any future action to rig the after dressing station, but to instruct the medical officer, sick berth staff, and stretcher parties, when the order was given to man the dressing stations, immediately to go to the forward dressing station and remain there until the action was over. Had the party in the last action actually manned the after station "they would have been annihilated."

In these stations temporary dressings are applied, and a dose of morphine given. Near by the surgeon must plan to make the best use he can of any adjacent space where the men can lie until the action is over, for until then the real work of surgical treatment cannot be undertaken.

After he has chosen the best protected places for his wounded and staff, he must consider what he will do if a shell upsets them altogether or stops his electric light, or cuts his water and steam supplies as happened on the *Tiger* in both actions. He cannot depend on having the sick bay intact after action, as few sick bays are behind armour. It follows that when the dressing stations are being rigged before action, provision must be made for the possibility of there being no sick bay after action, and necessary gear must be placed under protection.

As soon as the ship is in commission her naval surgeons must set to work to train the stretcher parties so that they may not only learn to handle and transport wounded, but also get to know their ship thoroughly. On the *Tiger* we are told, "Not one of these men ever fails to tell you the shortest route available to get to the distributing station from any part of the ship, and should that route be blocked they always know the next quickest."

On "action stations" being sounded the medical officers' parties are reinforced by others not actually engaged in fighting or working the ship. On the *Lion* the surgeons had the help of first-aid parties, comprising writers, cooks, stewards, canteen hands, and the opinion is expressed that well-trained first-aid parties are essential. "Little benefit is derived from instructing the ship's company as a whole, as, although the men will tend their fellow shipmates with brotherly affection, they shrink from dressing their wounds, and always seek aid from a trained staff."

On the *Tiger* the medical officers had the assistance of the fleet paymaster and a chaplain; the chief writer was in charge of stretcher parties; the captain's cook looked after the supply of water and brandy and hot soup for the wounded; two cooks removed their clothing; the chief sick berth steward was in charge of the instruments and took general supervision, and the sick berth steward had charge of dressings and lotions.

In a light cruiser with two surgeons which was engaged in the battle of Jutland the senior's staff consisted of the sick berth steward, sick berth reserve steward, the ship's steward's assistant, a cook's mate, and the master-at-arms. The other surgeon had a sick bay attendant, the ship's steward, ship's corporal, a cook's mate and third writer.

The parties assembled at the stations may have a long wait. In the *Tiger* in one action they had to wait two hours before they had anything to do, and it is easy to understand that this period is very trying to the nerves. Fleet Surgeon Muir writes: "It must be remembered that the noise in the action is deafening, the concussion and vibration so severe that one feels as if every half minute one were taken by the shoulders and violently shaken; the smell of cordite is sickening in its intensity and penetration, the rumours that are passed along the deck occasionally most alarming, and the stampede of the fire parties to put out even the smallest fire liable to make any one's heart beat more quickly. Add to this the absolute ignorance of what is going on up above and the knowledge of the supreme hopelessness of any effort at escape should the ship go down suddenly, and it is not in the nature of mankind to sit calmly waiting for the gruesome sights which we know must come. The only remedy is work and plenty of it. If there is nothing else to be done the staff can always be ordered to swab out the station with izal. The officers must keep a tight hold of themselves, as even an innocent jest has been received with alarm. Once the real work does come along, the medical officer will find that, as if by magic, all traces of excitement disappear, and he will be surrounded by an eager, capable band of cheerful workers."

In the *Tiger* when a wounded man reached the station he was removed from the stretcher, laid on a couch, rapidly stripped by the two cooks, who were provided with large service scissors, and wrapped in a blanket. He was then quickly overhauled by a medical officer, who either applied temporary dressings or gave instructions. Temporary dressings were of the simplest description, chiefly gauze over wounds and boracic ointment to burns. Each patient was given ½ grain of morphine hypodermically by the medical officer if necessary, and the dose was repeated in half an hour should the men be found restless with dilated pupils. Tablets under the tongue were not found satisfactory. After the injection the patient was placed on one side, on a mattress on the floor of the station, on a mess table outside, or slung in a cot, and the cook came along with half a pint of warm bovril with, when ordered, 2 oz. of brandy in it. It was found that the wounded could be brought to the station from any point except the turrets without interfering with the work of the ship and without exposing the stretcher parties to undue risk. The wounded who were able to walk could easily reach the dressing station from the turrets, but to remove those who required to be carried it would have been necessary to hold up the turret for about ten minutes whilst the wounded were being lowered into the shell room. As this was obviously impossible in close action two special cook ratings who had been well trained in first aid, and provided with first aid bags, were stationed in each turret; when it was expected that a lull in the action was coming the captain sent down word from the conning tower, and the wounded were then moved.

In the *Lion* the forward dressing station was very inaccessible and could not accommodate more than a dozen men; the after station, though easy of access, was so small that only stores and instruments were placed therein. "During action the mess deck itself, which is behind armour, received all stretcher cases, who were placed out of the way in bathrooms or on mess tables." Fleet Surgeon Maclean and Surgeon Stephens tell us that in this way parts of the mess deck automatically became dressing stations as required. The wounded were not carried any further than was necessary from where they fell, and in this way, it is believed, shock was greatly

reduced. Those injured in turrets and isolated compartments were only removed during a lull or after the action. The wisdom of making arrangements for the wounded as simple as possible was illustrated on this ship during the battle of Jutland by the fact that the only portion of the mess deck specially prepared for the reception of casualties was rendered untenable by smoke and fumes at the very outset. Nearly all the casualties occurred in the first half-hour, and most of the wounded remained on the mess deck, where they were kept warm and dry on the mess tables; they had been dressed temporarily, and the medical officers gave them morphine hypodermically ($\frac{3}{4}$ grain). This large dose "acted like a charm; pain was instantly relieved, and haemorrhage controlled." No splints were applied, since the Neil Robertson stretcher answered the purpose admirably. The battle was thrice renewed during the evening, but in the lulls all were carried to the mess deck, where they were nursed through the night, and kept warm with blankets and hot-water bottles, and given bovril and medical comforts. Ten desperately wounded and burned died during the night. As it was thought probable that the action might be renewed at dawn, and as absolute rest was considered essential, no wounded were moved during the night, and the majority slept undisturbed.

At half-past seven on the morning of June 1st it was found safe to bring the wounded up from below. The vice-admiral's and captain's cabins were cleaned, dried, and thoroughly ventilated, a process which took a considerable time, since both were full of water and smoke, and here the men were placed on bedding laid on the deck. The captain's bathroom was rigged as an operating theatre, "and by 8.45 a.m. we commenced." They worked continuously until 12.15 a.m. on June 2nd, when the last case received attention; by that time both surgeons and assistants were "pretty well exhausted." They had dealt with 51 cases, and a general anaesthetic (chloroform and ether in equal parts) had been administered to 28. There were no mishaps, and on June 2nd 46 wounded were transferred to the hospital ship, 5 of the slight cases being retained on board. "We were," they say, "much helped by two officers who lent a hand in giving several of the anaesthetics." The work was severely handicapped by the fact that there had been 44 per cent. of casualties among the medical officers and sick berth staff. Three urgent amputations of the lower limb were performed, and five compound comminuted fractures of the leg treated and splinted. Some of the cases waited sixteen hours with only first-aid dressings, and others remained twenty-four or even thirty hours, before attention could be given to them; yet sepsis was much less frequent than might have been expected from these conditions. The wounds were treated by swilling them thoroughly with eusol, draining, trimming, and suturing when needful. "The cheerfulness and pluck of the wounded were simply magnificent. Content to be alive, they waited to be dressed with a silent patience admired by all." "In every case we found that the wounds were far more severe than we had been led to anticipate by the demeanour of the patient." Fleet Surgeon Muir, too, states that "it is very difficult to decide off hand the relative seriousness of the cases, and satisfactory treatment can only be given after very systematic examination and observation." He draws the moral that the surgeon must think out his plans beforehand, and keep to them, for "the apparent delay of a well-considered routine is as nothing with the time lost in a disordered though well meant effort at treating the worst cases first."

Staff Surgeon Holmes, who was on a light cruiser with Surgeon Murray Wilson, also had a hard time. The ship came into contact with the enemy at about 6.45 on the evening of May 31st, and was engaged off and on during the night. She was heavily engaged with three enemy cruisers about 9.45 p.m., and then all the casualties occurred almost at once. They numbered forty-one, of whom twelve were killed. There were two dressing stations, both on the lower or main deck, one forward and the other aft. The stewards, the first-aid party and the surgeon each took a case, and in less than half an hour all had received morphine, and had been dressed or re-dressed, some had had a first-aid dressing applied on the upper deck, and were distributed in the adjoining chief petty officers' messes, wardroom stewards' mess, and on the stokers' mess deck. Surgeon Wilson, in the forward station, was severely handicapped in his work by the fact that among the first to be severely wounded was the sick berth attendant, who was hit in several places, one large splinter passing through the abdomen in the right hypochondriac region. Staff Surgeon Holmes, in the after station, began to operate at 10.45 on the evening of May 31st, and had finished by 9 a.m. the next morning. Owing to the water-tight doors being closed, Surgeon Wilson could not reach him till 5 a.m. The ship was pitching and rolling a great deal, and was engaged with the enemy again. Chloroform was administered by the sick berth steward, and each case, as soon as finished, was removed by the first-aid party or the stoker's fire-brigade party to improvised beds already prepared, consisting of three hammocks placed longitudinally, and one transversely for a pillow, and covered with a blanket. The fire party looked after the men until they recovered from the anaesthetic. "While I was operating," Staff Surgeon Holmes says, "the chief writer from the commodore's office joined up with the party, as well as the chief cook and his assistant, all rendering great help, the former taking notes." The staff paymaster superintended the making up of improvised beds, and helped with dressings and the transport of wounded.

There is usually a fairly long interval between the temporary dressing of the last wounded and the end of the action, but this is not an unmixed evil, for of the two enemies the surgeon has to fight—shock and sepsis—the former, Fleet Surgeon Muir says, is the more fatal. The degree of shock in all cases of injury in action is relatively excessive, and the change to be noted in twenty-four hours after the receipt of the injury in severely wounded men, who have seemed to be on the point of death, is amazing. The means for combating shock during these early hours have already been mentioned. With regard to sepsis it must be assumed that all wounds and burns received in action are septic. Though they have donned clean clothing before action the patients are usually in an indescribably dirty condition. The mess decks and ammunition passages are covered with water, it may be to as much as a foot deep, and the men are constantly splashing through it. They are hot and perspiring; clouds of dust and smoke arise when the ship is struck by a shell, and the powerful supply fans bring down dust and smoke from the upper deck. In the *Tiger* the wounds and the surrounding skin were first cleaned with soap and warm water, using a very soft nailbrush and sponge. After all the foreign matter was removed the wound was flooded with methylated spirit to dehydrate it, and then sponged over with a 10 per cent. solution of tincture of iodine in methylated spirit. Drainage tubes were inserted and the wounds approximated, a few stitches being used to keep them in position. The wound was then covered with a gauze dressing and wool and bandaged. The men, after the final dressing, are nursed for the twenty-four or thirty-six hours which may elapse before they can be discharged to hospital or hospital ship. In the *Lion* the surgical toilet consisted of swilling the wounds thoroughly with eusol, draining, trimming, and suturing when needful. Of the cases discharged from the *Lion* to the hospital ship *Plassy*, fourteen were examples of extensive wounds, in many instances multiple with considerable loss of tissue and compound comminuted fractures. On June 11th Staff Surgeon R. J. Willan, F.R.C.S., of the *Plassy*, reported that nine of these cases were found aseptic and five septic, and in three of the latter pieces of clothing had, owing to the limited time available in the *Lion*, been missed. Staff Surgeon Holmes, when the men were first brought to the station, washed the wound and surrounding skin with mercury perchloride solution 1 in 1,000, and dressed with cyanized gauze wrung out of 1 in 40 carbolic lotion. Before operating he cleansed the wounds and surrounding skin with soap and water, then with spirit, and finally with mercury perchloride. Later they were dressed sometimes with iodine in spirits, at others with borsal powder.

General burns due to cordite fire were very severe and fatal. Almost 50 per cent. of the wounded suffered from burns of the face and hands alone, though the ankles were scorched in a few instances. These burns were caused by the flash of high explosives in a confined space, so

momentary that clothing protected the rest of the body. Both in the *Tiger* and *Lion* picric acid was found a suitable first dressing, but if left on too long it dried, and was difficult to remove. As a second dressing, a 5 per cent. mixture of eucalyptus in olive oil sterilized by boiling, and, if acid, rendered alkaline by lime water.

The ventilation was a serious question in all the ships. In the *Tiger* the distributing station was filled at one time with fumes from exploding shells and burning cordite, so that for a time the risk of suffocation in spite of respirators was really serious. In the *Lion* the fans to the cabins and mess decks were switched off at the commencement of the action, but restarted during lulls; those supplying compartments below the mess deck were run continuously. They drew their supply from the upper deck, and the delivery openings were packed closely with shavings soaked in the usual soda solution. In the *Tiger* the respirators, consisting of a bag of black gauze veiling soaked in solution, were perfectly efficient, but had to be damped in about fifteen minutes. The seriousness of cases of poisoning from nitrous oxide fumes was not always obvious. The extreme cases suffered from severe dyspnoea, sickness, and vomiting, and the minor cases, which might subsequently prove fatal, from a husky voice, slight cyanosis, pain and tightness behind the sternum, and slight mental disturbance.

The Neil Robertson stretcher used in all the ships is highly praised by all the surgeons—"None better or more suitable," says Fleet Surgeon Muir, "can be imagined." It was devised for moving wounded out of difficult places inaccessible to the ordinary stretcher with stiff poles. The man is wrapped up into a bundle, flexible only, and then to a small extent, at the waist. He is hoisted vertically or carried horizontally. The stretcher is made of stout canvas, strengthened by bamboo slats sewn on. The upper part taking the head and neck is secured by a canvas strap, which passes round the forehead. The part for the chest wraps round it, and is fixed with three canvas straps, one of which binds the upper limbs to the outside of the stretcher. The waist portion allows of enough bending to enable the stretcher to get round corners. The portion of the stretcher which is folded round the hips and lower limbs and down to the ankles is secured by two canvas straps. There is a central backbone of stout rope passing along the under surface. It has two beckets passing out from it on either side, which can be used as handles or for securing tackles when the patient is slung horizontally. At the head the rope ends in a rope grommet, which takes extra security from two brass eyelets let into the canvas. At the foot the rope ends in a galvanized iron ring, which is also secured to the stretcher by a span going to brass eyelets in the canvas.*

CASUALTIES IN THE MEDICAL SERVICES.

ROYAL NAVY.

Surgeon W. H. Edmunds, R.N.

Surgeon William Henry Edmunds, R.N., whose death at the Western Infirmary, Glasgow, we announced in our issue of October 14th, was the only son of Mrs. H. A. Edmunds, of Brockweir, Chepstow. He was 27 years of age and received his medical education of St. Mary's Hospital, London; he took the diploma of L.M.S.S.A. in 1913. After holding an appointment at the Middlesex County Asylum and assisting a practitioner at Old Hill, he was appointed medical superintendent to the West Heath Sanatorium and Fever Hospital. He joined the navy as a temporary surgeon in December, 1915, and was appointed to the Royal Naval Hospital, Haslar, in the following February. Later he was transferred to Chatham and became medical transport officer to the No. 2 naval ambulance train. He was taken ill with blood poisoning on September 24th and died on October 4th. Surgeon Edmunds was a prominent Rugby football player. The funeral took place at the Kingswood Unitarian Chapel, Hollywood, on October 9th. He was married in January of this year, and his widow has received a message from the King and Queen expressing their sympathy in her sorrow.

* The stretcher is described and figured in *First Aid in the Royal Navy*. H.M. Stationery Office. (Price 9d.)

ARMY.

Killed in Action.

Captain G. MacL. Levack, R.A.M.C.(T.F.).

Captain George MacLeod Levack, R.A.M.C.(T.F.), was killed in action on October 7th, aged 25. He was the younger son of John S. Levack, of Tobermory, Argyllshire, and was educated at Edinburgh University, where he graduated as M.B. and Ch.B. in 1914. He joined the 3rd Highland Field Ambulance as a lieutenant on October 19th, 1914, was promoted to captain after a year's service, and was attached to the Oxford and Bucks Light Infantry when killed.

Captain R. E. Harkins, R.A.M.C. (temporary).
Lieutenant S. A. Walker, R.A.M.C. (temporary).

Died on Service.

Captain W. Crymble, R.A.M.C.

Captain William Crymble, R.A.M.C., died recently at Alexandria of enteric fever. He was the son of Mr. Hugh Crymble, of Downpatrick, County Down, was educated at the Belfast and Dublin medical schools, and took the diplomas of L.R.C.S.I. and L.R.C.P.I. in 1909, afterwards filling the posts of resident clinical assistant at the Royal Victoria Hospital, Belfast, assistant medical officer of Down District Asylum, and senior assistant medical officer of Beckett Street Infirmary, Leeds. He had joined the Special Reserve of the R.A.M.C. before the war, attaining the rank of captain on July 13th, 1914. He went to France with the original British Expeditionary Force in August, 1914, was taken prisoner in the retreat from Mons, and released in June, 1915, being posted some time after to the Mediterranean Force.

Wounded.

Captain J. E. Bruneau, R.A.M.C. (temporary).
Captain T. I. Dun, R.A.M.C.(S.R.).
Captain W. J. Grant, R.A.M.C. (temporary).
Captain S. Miller, R.A.M.C. (S.R.).
Captain S. A. Montgomery, R.A.M.C. (temporary).
Captain R. Silcock, R.A.M.C. (temporary).
Captain J. H. Wood, Canadian A.M.C.
Lieutenant A. Davidson, R.A.M.C. (temporary).
Lieutenant P. G. Leeman, R.A.M.C. (temporary).
Lieutenant R. S. MacLaren, R.A.M.C. (temporary).
Lieutenant J. M. Thompson, R.A.M.C. (temporary).

Deaths among Sons of Medical Men.

Boyd, William Gaston, Second Lieutenant Inniskilling Fusiliers, formerly in the Canadian Mounted Rifles, only son of Dr. Boyd, of Liffard, County Donegal, died on October 13th, of wounds received the previous day, aged 30.

Chapman, William Murray, Lance-Corporal London Regiment, second son of Dr. Charles W. Chapman, of Harley Street, and of Highwood Common, Mill Hill, killed recently.

Chattaway, Philip Spencer, Second Lieutenant Cheshire Regiment, only son of Dr. F. D. Chattaway, of Oxford, killed October 14th, aged 20. He was educated at Orley Farm Preparatory School, Harrow, and at Eton, where he was a scholar, and in December, 1914, gained an open scholarship at Christchurch College, Oxford. He got a commission in April, 1915, and was sent to the front in September, 1916.

Doyle, Edward Percival, Second Lieutenant West Yorkshire Regiment, whose death at the age of 26 we noticed in our issue of August 5th, was the eldest son of Dr. and Mrs. Doyle, of San Fernando, Trinidad. After being educated at the Queen's Royal College, Port of Spain, he entered as a student at the Middle Temple, was called to the Bar in 1913, and practised in Trinidad. Shortly after the outbreak of war he enlisted in the King Edward's Light Horse and received a commission after being on active service for some time in France. His commanding officer said of him: "No more gallant officer ever wore the King's uniform. His loss has been a very great blow to me and a grievous loss to the battalion. He was gallantry itself, beloved by his men, who would, and did, follow him anywhere."

Gray, G. M., Second Lieutenant Royal West Kent Regiment, second son of Dr. Gray, of Hastings, killed October 7th, aged 30.

Hatch, Philip Randall, Lieutenant East Kent Regiment, the Buffs, eldest son of Dr. F. H. Hatch, of Wimbledon, killed October 7th, aged 24. He was born in 1892, educated at Oundle School and at Christ's College, Cambridge, where he took the diploma in Agriculture, and was studying in Denmark when the war began, and returned to join the army, getting a commission on December 18th, 1914.

Heyward, Harry Neale, Second Lieutenant Durham Light Infantry, third son of Dr. Heyward, of South Croydon, killed October 10th.

Kidd, L. C., Second Lieutenant Royal Flying Corps, second son of Dr. Cameron Kidd, of Bromsgrove, Worcestershire,

killed October 12th, aged 23. He was educated at Bromsgrove School, took a pilot's certificate at Hendon before the war, and was tea planting in Ceylon when the war began. Returning to England, he got a commission in the Royal Flying Corps, went to the front last February, and had recently received the Military Cross.

King, Frederick Harvey, Lieutenant West India Regiment, attached to the West Riding (Duke of Wellington's) Regiment, son of Colonel W. G. King, C.I.E., I.M.S. (ret.), killed October 13th, aged 27. He became lieutenant on January 1st, 1913.

Knapp, E. M., Grenadier Sergeant London Regiment, eldest son of the late Dr. E. M. M. Knapp, of Ross-on-Wye, killed October 7th, aged 32. He had gained the Distinguished Conduct Medal.

Kriekenbeek, Ronald Edward Elliott, Major Indian army, second son of the late Dr. Kriekenbeek, of Colombo, reported wounded and missing on April 18th, 1916, now supposed killed on that date, aged 45. He was born on October 24th, 1871, got his first commission on November 30th, 1892, joined the Indian army on March 1st, 1894, and attained the rank of major on November 30th, 1910. His regiment was the 128th Pioneers. He served in the China war of 1900, receiving the medal, and had been mentioned in dispatches for his services during the present war.

MacCormick, Alexander Campbell, Second Lieutenant Argyll and Sutherland Highlanders, elder son of Sir Alexander MacCormick, M.D., F.R.C.S., of Sydney, killed October 11th, aged 19. He was educated at Fettes College, and got his commission in July, 1915. He was shot through the head in a raid on the German trenches.

Maxwell, Thomas, Second Lieutenant Royal Dublin Fusiliers, only son of Dr. Patrick W. Maxwell, Dublin, killed September 9th, aged 20. He was born in December, 1895, and educated at Cargilfield School, at Charterhouse, and at Trinity College, Dublin, which he entered in May, 1914. His commission was dated September 26th, 1914.

Nicholson, Charles Stanley, New Zealand Machine Gun Company, younger son of Lieutenant-Colonel J. E. Nicholson, R.A.M.C., senior medical officer, Winchester, killed September 15th, aged 29.

Peddie, Harry M. K., Bombardier, Royal Garrison Artillery, third son of the late William Peddie, of Stanley, killed October 11th, aged 22.

Power, William Goodlake, Captain Army Ordnance Department, only son of Fleet Surgeon W. M. Power, R.N. (retired), killed October 16th, aged 29. He was appointed an Inspector of Ordnance Machinery on February 25th, 1915.

Schäfer, Thomas Sydney, Second Lieutenant Northumberland Fusiliers, younger son of Professor Sir Edward Schäfer, of Edinburgh, reported wounded and missing in September, 1915, now presumed killed. He was born at Rickmansworth in 1891, educated at Cargilfield School, at Stanmore Park, at Edinburgh Academy, and at Caius College, Cambridge, where he gained a scholarship, and had taken the Natural Science Tripos. He entered University College Hospital as a medical student in 1913. At the beginning of the war he went to France with the Australian Voluntary Hospital, got a commission on December 18th, 1914, went back to France in August, 1915, and took part in the battle of Loos and the assault on Hill 70, being reported wounded and missing on September 26th, 1915.

Seccombe, Lionel A., youngest son of Dr. S. H. Seccombe, of Melbourne, died of wounds on September 11th, aged 21.

Sydenham, Humphrey St. Barbe, Lieutenant Devon Regiment, only son of Dr. G. F. Sydenham, of Battleton, Dulverton, Somerset, died October 8th of disease contracted at the front. He was born in 1896, educated at Blundell's School, Tiverton, and had entered Exeter College, Oxford, where he was a sergeant in the O.T.C. He got a commission on October 1st, 1914, and was sent to India before the end of that year.

MEDICAL STUDENT.

Hollands, Wilfrid George, Second Lieutenant Royal Fusiliers, killed recently, aged 24. He was educated at St. Olave's Grammar School, Tower Bridge, and entered Guy's Hospital in October, 1912. He enlisted in the Public Schools Battalion of the Middlesex Regiment in September, 1914, got a commission in May, 1915, and went to the front in April, 1916.

NOTES.

HONOURS.

THE *London Gazette* of October 20th publishes a long list of honours. Sixty-five officers receive the D.S.O. and three a clasp to that order; 365 Military Crosses are gazetted, and six officers who had previously gained the Cross receive a bar. Among those decorated are forty medical officers, of whom four receive the D.S.O., thirty-five the Military Cross, and one a bar to the Cross, previously gained. Their names are as follows:

D.S.O.

Surgeon-Major Francis W. Bailey, R.F.A. (Medical Officer) (T.F.).
For conspicuous gallantry and devotion to duty. When the batteries of his brigade came under heavy shell fire, he at once went out to tend the wounded and dying in the open with utter disregard of danger.

Major Michael J. Mahoney, M.D., R.A.M.C.(T.F.).
For conspicuous gallantry and devotion to duty in action. When his aid post was blown in he at once established another under heavy shell fire and tended the wounded for two days and nights. When relieved he took a few hours' rest and then returned to his gallant work.

Captain Joseph E. Milne, M.D., R.A.M.C.(T.F.).
For conspicuous gallantry and devotion to duty during operations. He has repeatedly tended the wounded under heavy shell fire, and has shown himself utterly regardless of personal safety.

Captain Edgar Percival, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty. He led a party of stretcher bearers into a wood and remained for over two hours searching for wounded under shell and machine gun fire. On previous occasions he has done similar gallant work.

Military Cross.

Temporary Captain Harold Ackroyd, M.D., R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He attended the wounded under heavy fire, and finally, when he had seen that all our wounded from behind the line had been got in, he went out beyond the front line and brought in both our own and enemy wounded, although continually sniped at.

Temporary Lieutenant Frederick A. Anderson, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty. When his aid post was hit and all his assistants were wounded, he himself being badly bruised, he helped to dig out three buried men under heavy shell fire. He stuck to his duty till his battalion was relieved.

Temporary Lieutenant Bernard F. Bailey, R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. For two days and nights he tended the wounded under heavy shell fire. He was stunned by a shell, but, on regaining consciousness half an hour later, continued his fine work with the greatest coolness.

Temporary Captain Cyril C. Beatty, R.A.M.C.
For conspicuous courage and coolness when in charge of an advanced dressing station. By his fine work he has ensured quick and successful evacuation of wounded from the aid posts. In times of difficulty he set an invaluable example.

Temporary Lieutenant James G. Bell, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty. He tended the wounded under heavy shell fire. On being relieved he heard that some wounded men had been left in a trench, and immediately went back 2½ miles with a stretcher party through heavy shelling, and brought in three wounded men.

Temporary Captain Thomas Bourne-Price, R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He went from place to place under very heavy shell fire to try and get into communication with the ambulance cars. Finally, he was half-smothered by the explosion of three successive heavy shells. For many months he has done very fine and gallant work when in charge of stretcher bearers, and when tending and evacuating wounded under shell fire.

Captain William Bowater, R.A.M.C.(T.F.).
For conspicuous gallantry and devotion to duty during operations. He collected the wounded from the front line trenches and advanced dressing stations under heavy shell fire during several days. He allowed himself hardly any rest, and set a fine example to his men.

Captain Samuel Brown, R.A.M.C. (temporary).
For conspicuous devotion to duty during operations. He was blown up by a shell, and so much injured that he had to spend the night in a field ambulance; but, though still suffering, he returned to duty next day. A few days later he was again blown up. He has never spared himself, and has displayed the greatest gallantry.

Temporary Captain William Campbell, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He repeatedly attended the wounded under heavy shell fire. On one occasion, when a dug-out had been hit by a gas shell, he went in to attempt the rescue of those within under very dangerous conditions.

Temporary Lieutenant John R. Christian, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty. When brigade head quarters was shelled by the enemy, one man being mortally wounded and two officers incapacitated, he remained with them all night exposed to shell fire. After the wounded had been removed to safety he remained behind in order that other units might know where to find him. He has done other fine work.

Temporary Captain Arthur G. Clark, M.B., R.A.M.C.
For conspicuous gallantry and good work, controlling bearers at the front under very heavy fire. He did especially good work in advanced trenches.

Temporary Lieutenant Vincent M. Coates, R.A.M.C.
For conspicuous gallantry and devotion to duty in action. During an attack he tended the wounded under very difficult circumstances, working without assistance after his orderly was hit. He was under heavy shell fire.

Captain Aston R. Dale, R.A.M.C.(S.R.).
For conspicuous gallantry and devotion to duty during operations. He was untiring in his efforts on behalf of the wounded, and showed great courage when a shell burst in the entrance of his dressing station, killing his orderly and wounding a sergeant.

Temporary Captain Douglas A. Donald, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. When a dug-out was hit by a gas shell, he twice entered and removed two wounded men under very dangerous conditions. He had previously been working continuously for forty-eight hours removing the wounded from aid posts.

Temporary Lieutenant Richard Felton, M.D., R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He tended the wounded during an intense bombardment, and, a few days later, when a shell blew in the orderly room, killing three men and burying the remainder, he rescued the latter under most dangerous conditions. But for his pluck and devotion to duty many more lives would have been lost.

Temporary Captain William E. Giblin, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty in action. He tended the wounded in "No Man's Land" under heavy shell and machine-gun fire, and showed an utter contempt of danger.

Captain Samuel S. Greaves, R.A.M.C.(T.F.).
For conspicuous gallantry and devotion to duty in action. For thirty-six hours he tended the wounded in the open. On several other occasions he has shown great courage under heavy shell fire.

Temporary Captain John Greene, R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He tended the wounded under heavy shell fire, though himself injured by a shell which burst only ten yards from him. He immediately returned to duty after being tended at the dressing station.

Captain Eben S. B. Hamilton, M.B., R.A.M.C.(S.R.)
For conspicuous gallantry and devotion to duty during operations. He rescued three severely wounded men from the ruins of a dug-out under heavy shell fire. As he was removing the last man the dug-out was blown in on him, and he had himself to be dug out. He has done other fine work, and has shown an utter disregard of danger.

Temporary Captain John B. Hunter, R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He tended the wounded under heavy shell fire when the battalion had suffered heavy casualties. By his fine example he inspired all under him with courage and energy.

Temporary Captain Ernest E. Isaac, R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He tended the wounded in a very exposed position for twelve hours, some of them being wounded and one actually killed by shell fire in his aid post. At one time he had worked unceasingly for thirty-five hours without food, drink, or rest, having divided up his food and water among those of the wounded who most needed it.

Captain Frank G. Lescher, R.A.M.C.(S.R.)
For conspicuous gallantry and initiative in searching for wounded under heavy shell fire. He repeatedly led his bearers through heavy barrage. He continued his work until he had got all the wounded to safety.

Temporary Captain Kenneth W. Mackenzie, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. His aid post was continually shelled, but he carried on with great determination. He personally assisted some of the walking cases across the shelled area, and, when water ran out, went himself across the open to get some. He showed an utter disregard of personal safety.

Temporary Lieutenant George B. McTavish, M.D., R.A.M.C.
For conspicuous gallantry and devotion to duty. Throughout very severe fighting he was responsible, by his energy, courage, and contempt for danger, in saving a large number of severely wounded who had been left in the battered front line trenches or in "No Man's Land."

Temporary Lieutenant Gregor M. Miller, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. By his splendid example and cheerfulness he gave great encouragement to the men under heavy and continuous shell fire. He voluntered to remain in the front line trenches, where he saved the lives of many badly-wounded men by being on the spot.

Temporary Captain Francis J. Morris, R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He led his stretcher bearers to collect wounded in full view of the enemy's position, and set a fine example to all near him. He has done other similar gallant work.

Temporary Captain Bartholomew J. Mullin, R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He tended the wounded under heavy shell fire after himself being knocked down by a shell. He had to work in an open trench without any overhead cover, and exposed to enfilade fire.

Captain Hugh R. Partridge, R.A.M.C.(T.F.).
For conspicuous gallantry and devotion to duty during operations. During several weeks he was in charge of a collecting post, and repeatedly under heavy shell fire. He has shown the greatest coolness, and has worked incessantly evacuating the wounded. He has been hit more than once by débris, and has set a fine example to those around him.

Temporary Captain Wellington Le R. Pedlow, M.D., R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. He tended the wounded utterly regardless of the enemy's fire, and carried a severely wounded officer from a very exposed part of the captured position to the aid post, being fired at all the way.

Captain Rudolf A. Peters, M.B., R.A.M.C.(S.R.).
For conspicuous gallantry and devotion to duty during operations. He tended the wounded the whole day and night under heavy shell fire, and at night was instrumental in getting in many wounded who were lying out in front in the open.

Temporary Captain Nicol McN. Rankin, M.B., R.A.M.C.
For conspicuous gallantry and devotion to duty in remaining at his post and attending to wounded after the regimental aid post had received three direct hits and he himself had been wounded in the face. For four hours he continued at duty, the area around his aid post being heavily shelled all the time.

Temporary Captain Charles Roche, R.A.M.C.
For conspicuous courage and skill in the performance of his duties, many times under fire. He organized large stretcher parties and rescued many seriously wounded men from points which were constantly under heavy fire. He has displayed great devotion to duty under distressing circumstances.

Captain Hugh K. Ward, M.B., R.A.M.C.(S.R.).
For conspicuous gallantry and devotion to duty during operations. He has shown an utter contempt for danger, going to any and every place, however exposed, in which there were wounded men. He has himself been wounded by a shell while carrying out this gallant work.

Captain Albert Groenewald, M.B., Medical Officer (attached S. African Horse).
For conspicuous gallantry and devotion to duty during several actions. He tended the wounded under fire with utter disregard to his personal safety.

Captain Stephen Liebson, South African Medical Corps.
For conspicuous gallantry and devotion to duty when tending the wounded during operations. Though himself wounded and with nothing but a small trench to work in, he carried on during several days under heavy shell and sniping fire with the greatest courage.

Bar to Military Cross.

Temporary Captain William H. Lister, M.C., R.A.M.C.
For conspicuous gallantry and devotion to duty during operations. For thirty hours he supervised the work of his stretcher bearers in the open under heavy shell fire. On another occasion he searched a wood for wounded under very heavy shell fire.

The Military Cross has also been conferred upon the following chaplains and other officers in recognition of services rendered to the wounded: Rev. John Allan Gray, Rev. Thomas William Hart, Rev. Kenneth Curteis Jackson, M.A., Rev. Cyril Walford Osborn Jenkyn, Rev. Alister John Stewart, Second Lieutenant Geoffrey Cholerton Smith, A.S.C., Second Lieutenant Louis C. Diespecker, R.F.A. Special Reserve.

Distinguished Conduct Medal.

Sergeants H. W. Abbiss, J. Ellis, R. Fraser, T. Smalley, and H. B. Stuart, Corporal J. B. Purvis, and Private A. Samson, all of the R.A.M.C.; and Private S. H. Kirby, Australian Army Medical Corps.

DISPATCHES.

A dispatch from Lieutenant-General Sir Percy Lake, K.C.B., Commander-in-Chief in Mesopotamia, dated August 24th, was published in the *London Gazette* of October 19th, giving the names of officers and men specially mentioned for good service. To it was appended a list of those mentioned by Major-General Townshend for their services in the defence of Kut. The names of the medical officers mentioned are as follows:

GENERAL SIR PERCY LAKE'S DISPATCH.

Royal Navy.—Staff Surgeon E. Cameron, Surgeon F. G. Hitch.

Staff.—Colonel A. E. Tate, A.M.S.; Lieutenant-Colonels G. B. Irvine, I.M.S.; H. Boulton, I.M.S.; Major A. W. C. Young, I.M.S.

R.A.M.C.—Lieutenant-Colonels D. J. Collins, S. F. Green, F. T. Palmer, B. M. Sloan; Majors H. J. Crossley, J. G. Foster; Captains R. M. Allan, F. H. M. Chapman, F. T. Dowling, R. W. Duncan (killed), H. L. Garson, A. Glen, W. T. Graham, A. J. Ireland, S. W. Kyle, A. N. Mitchell, W. H. O'Riordan, R. T. Vivian, H. F. Warwick, P. A. With; Lieutenants W. G. Macdonald, J. B. Thackeray.

Indian Medical Service.—Brevet-Colonel W. W. White; Lieutenant-Colonels S. Anderson, A. H. Nott, E. L. Perry; Majors R. J. Bradley, F. P. Connor, W. Gillitt, C. M. Goodbody, D.S.O.; R. Kelsall, J. H. Horton, D.S.O., R. A. Lloyd, N. W. Mackworth, W. S. Patton, C. C. C. Shaw; Captains F. C. Fraser, D. C. V. FitzGerald, E. S. Goss, R. D. Green-Armytage, W. H. Hamilton, R. de S. B. Herrick, J. H. Hislop, J. W. Jones, E. W. O'G. Kirwan, L. A. H. Lack, R. F. D. Macgregor, J. S. Martin, Rai Dewan Hakumat, H. K. Rowntree, J. A. Sinton, V.C., R. Sweet, R. T. Wells, Jyoti Lal Sen; Lieutenants U. N. Banerjee, J. P. Canteenwalla, S. D. Sondhi.

I.S.M.D.—Honorary Lieutenant K. G. S. Macqueen, Honorary Captain R. T. Murphy, and fourteen other assistant surgeons, and twenty-two subassistant surgeons.

Two lady superintendents of Queen Alexandra Military Nursing Service for India, twenty members of the Army Bearer Corps, three nursing orderlies, and nine ward servants and orderlies are also mentioned.

MAJOR-GENERAL TOWNSHEND'S DISPATCH.

Staff—Colonel P. Hehir, C.B., I.M.S.; Lieutenant-Colonel H. O. B. Browne-Mason; Subassistant Surgeon Manikkam.

Royal Army Medical Corps.—Lieutenant-Colonel J. Hennessy; Majors E. V. Aylen, F. C. Lambert (deceased); Captains A. S. Cane, E. G. S. Cane, T. E. Osmond (attached Norfolk Regiment); J. Stanton (attached Oxford and Bucks Light Infantry).

Indian Medical Service.—Majors E. F. E. Baines and C. H. Barber; Captains D. Arthur (attached 7th Rajputs), R. C. Clifford (attached 24th Punjabis), A. R. S. Alexander, killed, (attached 7th Gurkhas), and M. L. Puri; Lieutenant W. C. Spackman (attached 48th Pioneers).

Indian Subordinate Medical Service.—Honorary Captain G. O. Weston, Assistant Surgeon E. B. Holt, and five subassistant surgeons.

The same *Gazette*, of October 19th, notifies the grant of a few honours for the defence of Kut, all dated June 3rd, 1916. Among them is a K.C.B. to Major-General Townshend. The following medical officers are also decorated:

D.S.O.—Lieutenant-Colonel H. O. B. Browne-Mason, R.A.M.C.; Major E. V. Aylen, R.A.M.C.; Captain R. C. Clifford, I.M.S.; Captain L. Murphy, R.A.M.C.

Military Cross.—Captain D. Arthur, I.M.S.; Captain A. T. J. McCreery, R.A.M.C.; Captain K. K. Mukerji, I.M.S.

SUDAN OPERATIONS.

The following officers of the R.A.M.C. are among those commended for service in connexion with the military operations in the Sudan in General Sir Reginald Wingate's dispatch published in the *London Gazette* of October 25th: Lieutenant-Colonel F. F. Carroll, Majors R. G. Anderson and W. Byam, Captains R. G. Archibald, C. Cassidy, A. G. Cummins, D. S. Buist, and E. Gibbon. Dr. A. J. Chalmers, Director of the Wellcome Research Laboratories, Khartoum, and Dr. E. S. Crispin, Acting Director, Medical Department, Sudan Government, are also mentioned.

England and Wales.

THE CAMPAIGN AGAINST VENEREAL DISEASES.

AT a meeting called by the Lord Mayor of London at the Mansion House on October 24th, at the request of the National Council for Combating Venereal Diseases, Lord Sydenham, who presided, said that the first step was to provide treatment centres and laboratory facilities, and it was essential that treatment should be free, and that no stigma should attach to those who sought it. He appealed to private practitioners and panel doctors, who must always be the first line of defence, to master the technique of the treatment themselves, or at least direct their patients to places where they could receive it. The legislation needed with regard to quack remedies and treatment by unqualified persons was only such as Parliament in these days might readily pass. Mr. Walter Long, the President of the Local Government Board, in a sympathetic speech, said that he was confident that the New Year would see a scheme ready for London and Greater London, and that similar schemes would be forthcoming for other places. He expressed great indebtedness to the hospitals for the public spirit they had shown in dealing with this problem. If the Government did not adopt compulsory notification and treatment as part of their scheme it was not on account of fear or prejudice, but because it thought that other methods were more effective. If a really workable proposal for legislation against quack practice could be made, and shown to commend itself to public opinion, he would do his best to carry a measure through Parliament. Mr. Herbert Samuel, the Home Secretary, dealt with the preventive side of the question and the problem of prostitution generally. The Home Office was anxious to encourage the employment of women police and women patrols. Unhappily, at the present time, venereal diseases were being spread through the agency of quite young girls who were not of the ordinary prostitute class. At first sight the argument in favour of compulsory notification seemed unanswerable, but he believed that such a measure would have the opposite effect to that desired, inasmuch as it might deter people from coming forward for treatment. He suggested that legislation should provide that it should be an offence against the law for a person knowingly and deliberately to do that which was calculated to transmit this disease to another person, including soliciting for prostitution. It was true that in many cases it would be difficult to prove the fact of knowledge, but there was one class of cases which might be dealt with—namely, that of men and women who found their way into prisons or other institutions, and were medically examined, and on leaving were still in an infectious state; they might be given a certificate the possession of which could be used as evidence of their knowledge of their condition should they afterwards be charged with the major offence. Mr. A. F. Buxton, chairman of the London County Council, gave some instances of what the council was doing; and a final speech was delivered by Sir Thomas Barlow, who pleaded for the cordial co-operation of the medical staffs of the hospitals and for the establishment of evening clinics without which the plan could only be inadequately accomplished. Mere notification he regarded as a fetish, and compulsory treatment as absolutely impossible. A vote of thanks to the Lord Mayor for his hospitality was moved by Sir Malcolm Morris and seconded by Lady Barrett.

PORTSMOUTH SCHEME FOR CONTROLLING VENEREAL DISEASES.

A report on venereal disease and details of a scheme for putting the provisions of the regulations for venereal diseases issued by the Local Government Board into operation at Portsmouth has been presented by Dr. Mearns Fraser, M.O.H. to the Health Committee of the borough. The principal points of the scheme are briefly as follows: (1) Arrangement with the Committee of Management of the Royal Hospital, Portsmouth (a general hospital), for carrying out the treatment of venereal diseases under the direction of a special medical officer and staff, to be appointed by the Hospital Committee subject to the approval of the Local Government Board. (2) Treatment to be free to every person who applies, without distinction; male and female patients to attend at different times; two beds to be provided for each sex. (3) Laboratory facilities for diagnosis and guidance in treatment, available for Poor Law medical officers, medical officers of other institutions, and medical practitioners generally, to be provided at the same hospital. (4) Salvarsan, or its approved "substitutes," and apparatus for collecting material for examination, to be issued to medical practitioners gratuitously by the medical officer in charge and by the medical officer of health. (5) The formation of a committee, including representatives of various public bodies and voluntary agencies, for the purpose of advising the council in regard to measures for making the scheme generally known to the public, and for the control of venereal disease. These measures would include public lectures and the dissemination of literature prepared by the National Council for Combating Venereal Disease, and endeavours to secure the co-operation of the Board of Guardians, the Local Insurance Committee, other public bodies and voluntary agencies, and the members of the medical profession. The cost of the scheme for the first year is estimated at £1,462, including a salary of £300 for the medical officer in charge; 75 per cent. will be paid by the Government. It is specially noted in the report that this scheme for the treatment of venereal disease is entirely voluntary; that there will be no compulsion or pressure brought to bear on persons to make them attend or continue attendance; and that the persons attending will be under no control.

MEDICAL SUNDAY IN LIVERPOOL.

The Committee of the Liverpool Royal Infirmary revived on Sunday, October 22nd, a ceremony which had been in abeyance for at least half a century. This was a visit in state of the Lord Mayor, members of the city council, the committee and medical staff of the Infirmary, and other public men to St. Nicholas's Church, one of the oldest city churches. The procession started from the Town Hall, led by the police band. It is hoped that this will establish the custom of a "Royal Infirmary Sunday." Archdeacon Howson preached the sermon, and we believe the offertory in aid of the Royal Infirmary realized a considerable sum. This institution, in spite of many benefactions, needs much increased pecuniary support to meet the greater cost of maintenance. In 1914 this amounted to £21,135 and in 1915 the sum was £23,273.

In the afternoon of the same day the annual medical service for medical men was held at St. Luke's Church. Bearing in mind the depleted ranks of the medical profession the attendance of medical men—chiefly in khaki and a sprinkling of some in academic dress—was more numerous than was expected. The Lord Mayor and Lady Mayoress were present, and the church was well filled. The sermon was preached by the Rev. E. W. Barnes, Sc.D., F.R.S., Master of the Temple, whose theme was the credibility of miracles in the New Testament. He urged his hearers, by calling to witness the additions to our knowledge of psychotherapy, not to brush lightly aside the sacred records of spiritual healing of bodily infirmities. The offertory was devoted to the Royal Medical Benevolent Fund, and amounted to £30.

Scotland.

ACUTE ANTERIOR POLIOMYELITIS.

DR. MATTHEW HAY, M.O.H. Aberdeen, in his last monthly report, stated that ten further cases of acute anterior poliomyelitis had been reported, making altogether 76 from the commencement of the outbreak to the end of September, and that three additional cases had been notified in October. He gave an account, founded upon official bulletins, of the contemporaneous and much larger epidemic in New York. In both cities there were a few cases in May, but in New York the number increased very rapidly. In June there were 320 cases, in July 3,731, in August 4,104, but during the last fortnight of that month the cases began quickly to decline. Altogether, 8,155 cases were reported to the end of August, and the type of the disease was very grave. Over 1,932 deaths were recorded. Cases among infants were, in proportion to the total cases, somewhat fewer in New York than in Aberdeen, and the cases among persons

above 5 years of age somewhat more numerous, but the proportion of adult cases was not high in either town.

	Aberdeen.	New York.
Cases under 1 year	21.0	11.0
,, above 1 and under 3 years ...	55.0	57.0
,, above 3 and under 5 years ...	15.0	15.0
,, above 5 and under 10 years...	8.0	14.0
,, above 10 years	1.3	2.7

It may be added that recent reports show a notable diminution in the epidemic of poliomyelitis in New York, During the week ending September 23rd, 160 new cases with 58 deaths were reported, as compared with 254 cases and 84 deaths in the previous week. For the week ending September 30th the number of cases reported was 140. The total number of cases up to September 30th was 9,029, with 2,286 deaths.

REMOVAL OF PATIENTS TO INFECTIOUS HOSPITALS.

The Stirling Burgh Medical Committee has adopted a minute pointing out to the Western District Committee of Perth County Council that the arrangements for the transfer of infectious cases from the southern districts of Perthshire to a fever hospital are unsatisfactory, and recommending that in the interest of the patients it is desirable to make arrangements for their admission to the Stirling Combination Fever Hospital, or, should this not be possible, the provision of a motor ambulance. Two children recently died during removal, and the medical officer for Perthshire had made a report to the Western District Committee which appeared to accuse the medical practitioner concerned of negligence. The Stirling Medical Committee points out that if arrangements had existed by which infectious cases in that neighbourhood could have been removed to Stirling Fever Hospital both the children would have been in hospital and isolated a few hours after diagnosis, whereas existing arrangements led to a delay of one day and a half.

CHILD WELFARE IN ABERDEENSHIRE.

Dr. Watt, M.O.H., submitted a scheme for maternity service and child welfare to the Public Health Committee on October 13th. Dr. Watt's suggestions were as follows: (1) The employment as health visitors for their areas of the existing district nurses, where suitable and available, and the appointment of nurses for health visiting and other county work in the areas not so supplied; (2) the establishment of infant and maternity centres in the more populous places; (3) co-operation with the Secondary Education Committee in the organization and conducting of classes for mothers or young women at suitable centres. The committee resolved to recommend the county council to defer further consideration of the scheme till after the end of the war.

Ireland.

ANOTHER hospital ship, conveying 468 wounded, mostly from the fighting in the Somme area within the last fortnight, arrived at the North Wall last week; 120 cases were dispatched by a special hospital train to Belfast; the remainder were removed for treatment to the various Dublin hospitals. Orderlies of the joint V.A.D. for Ireland, of the British Red Cross and St. John Ambulance were on duty, 118 at the North Wall, and 133 at the various Dublin hospitals.

MEMORIAL TO THE LATE SIR HENRY SWANZY.

Last week the Archbishop of Dublin unveiled a memorial to the late Sir Henry Swanzy. It consists of a bas relief mural tablet with portrait in bronze, by Mr. Oliver Sheppard, R.H.A. The tablet is placed in a specially constructed, well-lighted alcove in the entrance hall of the Royal Victoria Eye and Ear Hospital, Dublin. Viscount Monck presided, and there was a large assemblage of friends and supporters of the hospital. Mr. J. B. Story, Vice-President of the Royal College of Surgeons, explained that a committee was appointed at a public meeting held in the Royal College of Surgeons in June, 1913, and a sum of £1,422 was subscribed. Of the total receipts £1,000 had been devoted to paying off part of the debt incurred in building the west wing of the hospital, and it was estimated that after all expenses were paid there would be a further sum of £140 to hand to the treasurer of the hospital. The Chairman said that Sir Henry Swanzy had worked for years for the amalgamation of the two hospitals previously existing, and the result was the present splendid institution, the new wing of which was called the Swanzy Wing.

The President of the Royal College of Surgeons said that Sir Henry Swanzy, after studying in Germany, where he acted as assistant to the greatest oculist of the day, served as surgeon with the German army in the Franco-German War of 1870. In 1888 the ophthalmic surgeons of the United Kingdom paid him the high honour of selecting him to deliver the Bowman lecture, and his reputation was by that lecture so established in America that he was asked to write an article which was really a monograph on eye symptoms in their relation to organic diseases of the brain and spinal cord. That article was generally considered to be the most authoritative on the subject. He was elected President of the Royal College of Surgeons in 1906. His professional career, as his private life, stood without blemish. He was the soul of honour, his ideals were high, and his ethics unimpeachable.

The Archbishop of Dublin, in unveiling the memorial, said that the hospital was one for the successful establishment of which Sir Henry Swanzy was responsible, and it was owing to his indomitable perseverance that all the difficulties were overcome. It was specially fitting that his name should be preserved there where the poor, for whose sorrows he always had great pity, were attended with care and skill. He had brought distinction to Dublin ophthalmology; he was amongt the foremost of European ophthalmologists, a good citizen, and an honoured friend.

Sydney.

VENEREAL DISEASES.

THE Federal Government has decided to take important action, in connexion with the States, to eradicate, or at any rate to minimize, the effects of venereal diseases. It has decided to offer to share equally with the States the cost of establishing clinics and providing other facilities for the diagnosis and treatment of these diseases, but it is not intended that the Commonwealth should usurp the functions of the States Health Departments. It is expected that by the expenditure of about £25,000 a year for the whole of the Commonwealth, a very considerable reduction can be made in the number of deaths, and in the amount of sickness and inefficiency caused by venereal diseases. This action has been taken in consequence of the serious losses sustained by the large amount annually spent in providing invalid pensions for persons whose invalidity is due more or less directly to venereal disease. It is estimated that fully 16 per cent. of the persons at present in receipt of pensions have become invalids through the effects of inherited or acquired syphilis, and that if syphilis could be eliminated the present number of invalid pensions could be reduced by fully 10 per cent. As the annual pension bill in the Commonwealth is approximately £575,000, a saving of nearly £60,000 might be effected, and as the commitments of the Commonwealth under the present scheme only amount to about £13,000 or £14,000 a year, the investment would be a profitable one, even if five to ten years were to elapse before the falling off in the number of invalid pensions became noticeable. Two conditions are attached by the Federal Government to the grants proposed to be made for the purpose of combating this evil. First, that the State seeking monetary assistance must first adopt legislation making the notification of venereal disease compulsory, for the Government believes that without this all other means taken to stamp out the disease would be futile. Secondly, the Commonwealth officials must be given facilities to see that the money is spent wisely, and that medical men and students are given an opportunity at the various Government clinics of familiarizing themselves with the nature of the diseases concerned, and so familiarize themselves with the treatment of these diseases.

Correspondence.

THE LIFE-HISTORY OF THE MENINGOCOCCUS AND OTHER BACTERIA.

SIR,—Professor Adami's stimulating article in your issue of October 14th, p. 525, will meet with strong sympathy from those who are looking toward the new era.

The question of mutability of organisms has kept cropping up persistently during recent years, although always looked on rather askance by those who forget that bacteriology was only founded, not completed, by Pasteur and Koch.

Since I had the privilege of working in Professor Adami's laboratory a few years ago, I have pondered much on the mass of data there obtained, as well as on other facts since observed in my own body—that the bacterial flora of the intestine, mouth, and throat can be altered "at will" by the simple expedient of adopting rigid dietaries of limited range. This finding, too, is corroborated in the case of animals by French observers.

Hence one would propose that it is not enough to say that the life-cycle of an organism may consist of two phases. The truth seems to require the addition of the idea that the nature of an organism depends to an important extent upon the chemical or physico-chemical composition of the juices of the host in which it occurs. Given an "ultra-microscopic germ," it may appear respectively as meningococcus, pneumococcus, or streptococcus, for instance—according to circumstances. We can only accept this after accepting the idea that "microbes" are not "living" things in the ordinary sense of the word, but belong to a state of matter intermediate between "lifeless" and "animal life."

These suggestions may seem visionary, because presented without tangible proofs. But a number of isolated links are to be found in connexion with certain studies of blood cells; and though these are not enough, we know from mathematics that one can predict missing links in a chain with provisional accuracy, after constructing a general formula from isolated ones.

Progress in the knowledge of microbes therefore demands much deeper knowledge of dietetic methods of altering the properties of our tissue-juices than has hitherto been deemed necessary. In short, one is brought to the conclusion that bacteriology has, in a sense, been begun at the wrong end.—I am, etc.,

Leeds, October 24th. O. C. GRUNER.

NAUHEIM BATHS AND THEIR ARTIFICIAL IMITATIONS.

SIR,—In the course of a review of Sir James Mackenzie's work on the *Principles of Diagnosis and Treatment in Heart Affections*, in your issue of September 30th, the following passage is quoted:

> The reputation of Nauheim baths and of the artificial imitation of them depends . . . more on brazen advertisements, financial interests, and the slavish tributes of other spas than intellectual appreciation and application of the principles of treatment.

As I had the honour of bringing the method of treatment referred to before the English-reading members of the medical profession, now nearly five-and-twenty years ago, I beg to say that that statement is contrary to the fact and gravely misleading. The reputation of the methods of the balneological and physical treatment of cardio-vascular affections is, on the contrary, founded on intrinsic merit and demonstrated results. Before attention was drawn to them, cardio-vascular degeneration and cardiac dilatation, as well as loss of compensation for valvular defects, were regarded as being beyond the range of treatment, and it is in great measure due to the methods in question that more sound and hopeful views prevail.

In the early days I had the pleasure of demonstrating the methods and pointing out the results of their application to the late Professor Sir T. Grainger Stewart, Sir Francis Cruise, Sir Philip Smyly, and Dr. Huchard of Paris, among many others, and each and all of them were convinced of their efficacy. The late Sir Lauder Brunton underwent the treatment some years ago, and informed me that he had derived the greatest benefit from it. It can scarcely be suggested that those able physicians and experienced clinicians were the victims of brazen advertisement or influenced by financial interests. Judging by cases that come under my notice of soldiers who have for months submitted to other kinds of treatment with little or no result, and by the statements of officers of the Royal Army Medical Corps who have been restored from a hopeless condition to one of health by recourse to Nauheim treatment, I venture to say that there are hundreds of officers and many more of the rank and file, some relegated to light duty and others invalided out of the service, who might in a short time be restored to health and vigour fitting them for active service. Neglect of the most effectual known means of relieving cardio-vascular troubles, and of the nerve complications associated with them, would be a grave matter at any time. At the present juncture it is little less than a national misfortune, and such statements as that quoted by your reviewer are in no small degree responsible for it.—I am, etc.,

London, W., Oct. 20th. W. BEZLY THORNE.

A NEW ULCERATIVE DERMATO-MYCOSIS.

SIR,—The unnecessary multiplication of the names of moulds ought to be opposed, because this, perhaps more than anything else, is responsible for the chaotic condition of pathogenic mycology. For this reason I pointed out (*Lancet*, 1912, i, p. 830) that in his description of *Endomyces pinoyi* and other endomyces Dr. Castellani had no evidence that the organisms were endomyces. I hope he appreciated the criticism, but I have no doubt he has dropped that genus.

In bringing forward a new pathogenic mould he has handed over the organism to Professor Pinoy, who tells us it is of somewhat difficult classification. I maintain that without more evidence than is contained in his description and figures Professor Pinoy ought not to have classified it at all. His description is even discursive, but it is neither precise nor impressive. The figures show branching hyphae which are freely septated even in the youngest culture. If pathogenic, it is safe to accept this as an imperfect fungus, because perfect fungi rarely enter man till they have been prepared for table. Fig. 6 shows terminal chlamydospores of quite ordinary type, such as may be found in almost any imperfect fungus. Why Professor Pinoy in this connexion drags in Fusarium does not appear on the surface. So far, then, classification is out of the question. It follows, therefore, that Professor Pinoy relies absolutely on the only remaining element which he either describes or figures, the so-called pseudoconidia. Though the description is vague, I gather that the organism produces conidiophores which "carry laterally pseudoconidia." But in Figs. 5 and 6 these elements are shown to be terminal as well as lateral. Moreover, some occur on short branches. Does Professor Pinoy believe that this comes within the genus Acladium of Link (1809)?

Since he cites Trichophyton, I submit that his figures recall the well-known Sporotrichum type of Trichophyton rather than the rarely seen Acladium type of Bodin. (Unfortunately there is already a *Sporotrichum castellani*.) But why drag in the rare Acladium type of Trichophyton when it is scarcely possible to examine a culture of the common microsporon without finding the Acladium type? Moreover, the *Microsporon audouini*, var. *equinum* (Bodin, 1896), when cultivated for some time at 37° C., becomes fixed in the Acladium form (Gedoelst, *Les champignons parasites*, p. 111). Further, Bodin has described this microsporon in the type Oospora, commonly called streptothrix, with elements like bacilli and cocci. Obviously this may explain the perplexing nature of cultures from leprosy, as well as the organism reported from the Pasteur Institute by Broughton-Alcock (BRITISH MEDICAL JOURNAL, 1913, ii, p. 299).

In conclusion, I hope that such an interesting organism as Castellani's will not be buried under the name Acladium until its mode of growth in the tissues has been studied.—I am, etc.,

Ealing, Oct. 10th. ROBERT CRAIK.

EMOLUMENTS OF OFFICERS R.A.M.C. SPECIAL RESERVE.

SIR,—I notice that one of your correspondents speaks of the temporary R.A.M.C. officers as men who were practically forced into the army.

This taunt from one who was actually and literally forced into active service is in as bad taste as my description of him would be, if I did not add that the most potent force applied to all of us, S.R. and Temporary alike, was our own sense of duty.

With the rest of his letter I quite agree, though there are other considerations than the very important one of pay.—I am, etc.,

H. DOUGLAS SMART, Captain R.A.M.C.

B.E.F., Oct. 7th.

SIR,—To further illustrate the deep injustice being done officers of the Special Reserve, I beg that you will give publicity to a statement of my case.

I was called up at the beginning of the war, and have been in France for two years. Recently I was invalided home, and after a brief leave granted an appointment in a home hospital. For my services I am granted 15s. 6d. pay and 3s. in allowances, 18s. 6d. in all. A young man newly qualified and inexperienced, for services less responsible is granted 24s. a day, and in some cases other allowances as well. I know several newly qualified men in receipt of 28s. a day. How long will such a crying injustice be permitted, or patriotism and preparedness so grossly penalized?—I am, etc.,

October 15th. SPECIAL RESERVE.

Medico-Legal.

AN INSURANCE BROKER'S SCHEME.

THE *Yorkshire Herald* reports the conviction at the West Riding Quarter Sessions, on October 16th, of Edward Thomas Johnson, Moss Side, Manchester, described as an insurance broker, of having obtained a sum of money by false pretences from Dr. J. W. Sutcliffe of Acomb. It appeared from the opening statement of counsel for the prosecution that the accused went into a chemist's shop in York and asked for the name of a doctor at Acomb, and that of Dr. Sutcliffe was mentioned. He called upon Dr. Sutcliffe, stating that he had been recommended by the chemist to see him with reference to a proposal that Dr. Sutcliffe should examine persons who desired to assure in companies with which the prisoner said he was identified. He stated that he represented a number of loan societies which insisted upon borrowers taking out life policies for the amount of loans as security. He said it would be necessary for Dr. Sutcliffe to take out a policy on his own life and produced proposal forms of the Liverpool, London, and Globe Insurance Company. Eventually Dr. Sutcliffe filled in a proposal form for £1,000 and gave an open cheque for the amount of the premium, £11. The accused said a guinea would be paid for each examination at the surgery, with liberal expenses for out of town visits, and that the fees would come to not less than fifty guineas a year. About a fortnight later the accused again called upon Dr. Sutcliffe and told him that a number of the assurances to be effected would be with the Eagle Insurance Company and that it would be necessary for him to take out a policy with that company also, but that he would guarantee Dr. Sutcliffe not less than seventy-five guineas a year. Dr. Sutcliffe agreed to take out a life policy for £300 and gave the prisoner a cheque for the amount of the premium, £9 7s. 6d. In exchange the accused gave a cheque for ten guineas, post-dated July 31st, on account of fees and expenses in connexion with examinations at Harrogate and Leeds, where Dr. Sutcliffe subsequently examined two doctors; a Leeds doctor also examined Dr. Sutcliffe. These doctors were being defrauded in the same way as Dr. Sutcliffe, and the cheque for ten guineas given to Dr. Sutcliffe by the prisoner was dishonoured. Counsel said that thirteen other doctors in Manchester and other places had been defrauded in a similar manner. The prisoner admitted all the offences, and his counsel pleaded that he had yielded to temptation owing to loss of business through the war. The prisoner was sentenced to twelve months' hard labour on each charge, the sentences to run concurrently. The bench ordered a sum of £20 7s. 6d. to be paid to Dr. Sutcliffe out of the amount of over £30 in the possession of the prisoner.

This is not the first occasion on which we have heard of attempts to work a scheme of this kind. As counsel for the prosecution said, in many cases of this sort a defrauded person does not take proceedings because he does not like it to be known that he has been weak enough to let himself be so defrauded. Dr. Sutcliffe, in taking the action he did, waived all personal consideration and served the interests of justice.

IN the second year of the war the number of women medical students in Germany, studying at the universities, had increased by 900. The total number of women medical students is 4,820. Of these about 200 are employed on some form of war service.

Obituary.

JAMES LAIDLAW HUGGAN, M.B., CH.B.EDIN.,

LIEUTENANT, R.A.M.C.

IT has often been said that no better recruiting stimulus could be provided than the publication of the splendid deeds and heroism of our military units and of individuals. The brief announcement made in 1914, in the JOURNAL, of the death of Lieutenant Huggan, deserves, even at this late date, a supplementary notice of this fine young officer, now that the facts about his death are available.

Lieutenant J. L. Huggan was born in 1888, at Jedburgh, the younger son of Mr. Robert Huggan, engineer. His mother, who survives him and lives in Edinburgh, was the daughter of a well-known manufacturer, Mr. Laidlaw, formerly Provost of Jedburgh.

Huggan was educated at Watson's College, Edinburgh, till the age of about 12, when he went to the Darlington Grammar School. On leaving it he entered the University of Edinburgh and graduated M.B. in 1911. He became house-surgeon to Mr. Alex. Miles, Surgeon to the Edinburgh Royal Infirmary, who describes him as one of the finest young men he ever met. He passed high in the examination for entry to the R.A.M.C., and a little more than a year later was about to leave for India when war broke out. He was gazetted to the 3rd Battalion Coldstream Guards and left for France with the first part of the Expeditionary Force. That he was an exceptional type of man is the opinion of his colonel, his brother officers, and the men who worked with or under him. Many expressions of opinion have now reached his friends showing how much he was esteemed and admired by every one, and bearing testimony to his splendid courage, strong individuality and fine sense of duty.

On September 16th, during the retreat on the Aisne, the Guards Brigade were ordered to retire from their position at Soupir farm, temporarily leaving behind—between our lines and the German—a barn which had been used as a hospital and which was occupied by about sixty wounded German prisoners. In spite of this the Germans shelled it and set it on fire. It was, Lord Ernest Hamilton says in his book *The First Seven Divisions*, clearly a case for very prompt action and very risky action, but there was no hesitation about it. Huggan, in spite of shot and shell raining about him, called for volunteers to help him save these wounded men from the burning flames, and it was greatly in consequence of his bravery that they were all saved. After he had run this great danger successfully he moved many of the wounded men to a cave or old quarry in the rear. Two days later, having moved one of his patients, a Prussian officer, to the entrance of the cave so as to get better light to deal with severe haemorrhage, a shell landed which killed him and his patient at the same time. While we quote this incident which unfortunately ended the career of a brave and most promising young officer it is merely typical of the man. At Landrecies, at Villers-Cotterêts, and on many occasions he earned the high praise of his C.O. for his devotion to duty and disregard of danger, and it is understood that his name was to be sent forward, recommended for the V.C.

Among those who went forward with him to the barn was Lieutenant H. J. Shields, who was killed in action on October 26th. Huggan was a Rugby International. He played for the Jedburgh Forest teams in his early days and afterwards became captain of the Edinburgh University team, and later played for Scotland *v.* England. He also represented the Army in the great match of 1913, Navy *v.* Army, when the King was present and received personally each member of the teams. In all his clubs he was looked upon as a fine exponent of the game, strong, resourceful, fast, and full of dash—a man who always played the game! In football there is no use for the man who plays for himself; he must play for his side. The lessons of the game stood him in good stead in the more serious work which fell to him in France. But there, as formerly, he played the game, right nobly!

Thus early has ended a fine young life, but Huggan's name will survive as an example and a model of how to live—and die. He lies at rest in the garden of Le cour soupir farm, "somewhere in France."

RALPH BROWN, M.D.Lond., B.S., M.R.C.S.Eng., L.R.C.P.Lond.,

SENIOR ASSISTANT PHYSICIAN AND DEPUTY MEDICAL SUPERINTENDENT, BETHLEM AND BRIDEWELL ROYAL HOSPITALS.

Dr. Ralph Brown was one of a large family of sons, all serving their country; he had volunteered for a commission in the R.A.M.C., and the formalities for the granting of this had not quite been completed when his untimely death occurred from a severe attack of typhoid fever. Early in the war his youngest brother was taken prisoner; shortly afterwards another was killed in Flanders, and this bereavement affected him very deeply.

Ralph Brown was educated at Sherborne School and entered University College, London, in 1899, where he became prosector of anatomy and later gained a gold medal in materia medica and therapeutics. Owing to the fact that the hospital was in the process of being rebuilt, he decided to carry out his clinical work elsewhere, and in 1903 gained the scholarship for third year students at Westminster Hospital. His career there was one of uninterrupted success. He took the conjoint diploma in 1906, and graduated M.B., B.S. at the University of London in 1908, and held in turn the posts of resident obstetric assistant and junior and senior house-physician. He then became house-physician to Bethlem Royal Hospital, and decided to specialize in psychological medicine. He was then appointed resident medical officer to Moorcroft Asylum, Hillingdon, but in 1911 he returned to Bethlem as junior assistant physician. With this appointment he became assistant medical officer to King Edward Schools, London and Witley. The latter work always filled him with pleasure and happiness, and often in his few spare hours of leisure he would visit the children and participate in their pastimes. He at one time held the post of clinical assistant to the West End Hospital for Diseases of the Nervous System. He was a member of the Medico-Psychological Association of Great Britain and Ireland, and a Fellow of the Royal Society of Medicine. He was also co-editor of the *Asylum Workers' News*. In 1913 he took the M.D. in psychology and mental diseases, and in 1914 was appointed senior assistant physician to Bethlem Royal Hospital, which post he held to the day of his untimely death.

Although of a quiet and retiring disposition he possessed a keen sense of humour, and his kindness of heart, his sympathetic manner, and his happy way of giving hopeful assurance to distressed patients will always be gratefully remembered by those who came in contact with him. So abundantly had he fulfilled the promise of his earlier years that the future must have held much success in store for him, and his death will not only prove a sad blow to his numerous friends but a loss to psychological medicine. A memorial service was conducted by the Rev. E. G. O'Donoghue in the Hospital Chapel on October 10th, and attended by many colleagues and friends.

The late Sir Lauder Brunton.—Dr. T. Bodley Scott (Bournemouth) writes: I first knew Brunton more than forty years ago, in his early days at St. Bartholomew's, when he was lecturing on pharmacology and therapeutics, and when he made even those dry bones live. It may fairly be said, I think, that they were the most interesting and instructive of all the lectures given there at that time. Ever since I have known him more and more intimately, and what one has learnt from him and from his work it would be difficult to exaggerate. If I may say so, he was more the general practitioner's consultant than most physicians of his time. There was never any cause to fear Brunton as an academic critic, living and thinking on a different plane to ourselves. He was always full of kindness and consideration, and what endeared him to us more was his humility—the humility of the true philosopher. The general practitioner of to day is a pretty good man, and he does not want a consultant to whitewash him or to cover his mistakes, if such there be, under a nebulosity of scientific words; but he wants a man who will help him to cure his patient, or, if that be not possible, to relieve his pain, and such a man was Brunton. In a consultation with him one always felt that one learnt and gained something, not alone for oneself, but for one's patient. In treatment especially he was a man of infinite resource. His mind was a treasure-house of knowledge and experience, and the treasure was always to hand, not on some other shelf, as is the case with most of us. If he had a fault, it was that of too great hopefulness; but his optimism—surely a fault on the right side—was due partly to his faith in his own therapeutic skill and partly to his sanguine optimistic temperament. For his brilliant scientific work and discoveries it is not for me to speak. Though he always preached moderation for others, he never spared himself, and that rather frail body gave forth a giant's output of work, not only in his own profession, but in philanthropy and sociology also. When one recalls that delightful corner house in Stratford Place, its unvarying hospitality, kindness, and sympathy, one feels that one must use Horace's words, "Ille terrarum mihi praeter omnes angulus ridet," and from that corner for many of us, as from a beacon light, will ever shine the memory and influence of Lauder Brunton.

The late Lieutenant-Colonel A. N. Walker.—Surgeon-Major W. Savile Henderson, 1st King Edward's Horse, writes: I was privileged to command a field ambulance in the same division as that of Colonel Nimmo Walker, R.A.M.C., and when in France saw much of him and his work. Devotion to duty was the keynote of his life and in the fulfilment of it he was fearless. His chief concern was for others and at all times he was ready to sacrifice his own interests on behalf of his officers and men. He had the complete confidence and was loved by all those under his command, for whom I feel the deepest sympathy, since they have lost a true friend and a brave officer.

Professor Vinzenz von Czerny, the distinguished German surgeon, has died in his 74th year. He was born at Trautenau in Bohemia on November 19th, 1842, and studied medicine at Vienna, where he graduated in 1886. He was assistant to Arlt and Oppolzer, but was chiefly associated with Billroth. In 1871 he was called to Freiburg as professor of surgery and director of the surgical clinic in the universi y. In 1877 he accepted the corresponding chair at Heidelberg, where he remained till his death, having declined a call to succeed Billroth at Vienna which came to him in 1894. He was the author of a work on operative surgery, published in 1875, and of memoirs on extirpation of the larynx, the oesophagus, the kidney and the uterus, resection of the stomach and bowel, operation for faecal fistula, gall stones, and radical cure of hernia, and diseases of the appendix. In his later years he devoted himself almost entirely to the study of malignant disease. When the institute for the experimental investigation of cancer was founded at Heidelberg in 1906 Czerny was appointed director; an account of the work done under his inspiration and supervision was published at Tübingen in 1912 under the title *Das Heidelberger Institut für experimentelle Krebsforschung*. Czerny was president of the Heidelberg society for the investigation of cancer. His general eminence as a surgeon and his special work on cancer were recognized by the bestowal of the title of Excellenz. Notwithstanding his advanced age Czerny at the outbreak of the war volunteered for military service as consultant of the surgeon-general's staff.

Dr. George Martin, who died recently at Chaumont-sur-Charonne at the age of 72, had been a member of the Municipal Council of Paris and President of the General Council of the Seine. He had also represented the Seine Department in the French Senate, where he filled the seat formerly held by Victor Hugo.

The Services.

EXCHANGES.

Temporary Captain R.A.M.C., nearly a year in France with R.F.A. (eighteen months same unit), desires, for family reasons, to exchange with Temporary Officer (preferably) at home who has no prospects of foreign service. Please state particulars. unit, station, duties, etc. Address No. 4300, British Medical Journal Office, 429, Strand, W.C.

Captain R.A.M.C., over eighteen months' foreign service, now in charge of corps troops, desires exchange with M.O. on home station. London or home county hospital preferred. Address No. 4199, British Medical Journal Office, 429, Strand, W.C.

Captain R.A.M.C.(T.), employed Recruiting Medical Board, cathedral city, Eastern Counties, desires exchange to York district.—Address No. 4299, British Medical Journal Office, 429, Strand, W.C.

Universities and Colleges.

UNIVERSITY OF LONDON.

LONDON HOSPITAL MEDICAL COLLEGE.

THE following Entrance Scholarships in Science have been awarded: "Price" Science Scholarship, value £50, to Mr. R. A. Madgwick; Entrance Scholarship in Science, value £50, to Mr. D. Hunter.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL.

The University Scholarship in Anatomy and Physiology has been equally divided, and awarded to Messrs. L. M. Moody and H. T. Rymer.

NATIONAL UNIVERSITY OF IRELAND.

THE Dr. Henry Hutchinson Stewart Medical Scholarship has been awarded to Stephen Shea of University College, Galway.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following gentlemen, having passed the requisite examinations, have been admitted Fellows: M. L. G. Hallwright, M. Horan, W. C. M'Caw, J. M'Houl, J. D. Milne, H. Nicol, A. C. Oldham, G. L. Preston.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

AT the 224th annual meeting of the President and Fellows of the Royal College of Physicians of Ireland on October 18th the following elections were made:

President, Dr. Joseph O'Carrell; Vice-President, Dr. Bewley; Censors, Dr. Henry Bewley, Dr. Martin Dempsey, Dr. W. A. Winter, Dr. B. Solomons; representative of the College on the General Medical Council, Sir John W. Moore; representatives of the College on the Committee of Management, Dr. Walter G. Smith, Sir John W. Moore, and Dr. T. Percy Kirkpatrick; Treasurer, Dr. Henry Bewley; Registrar, Dr. T. Percy C. Kirkpatrick; Librarian, Mr. Robert Phelps.

Mr. Leo Patrick O'Connor, having passed the final conjoint examination, was admitted to the licences in medicine and midwifery of the College.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examination indicated:

FINAL EXAMINATION.—R. J. T. Malcolm-Casper, S. C. Swinburne, W. J. M. White, E. Annequin, S. W. Hoyland, Martha H. Hoahing, C. G. Booker, H. A. G. Dykes Janie I. McBirnie, E. M. L. Morgan P. L. Manuel, H. Morley, R. V. Clarke, R. McGregor, O. G. Evans, E. Butler, and R. Woodside

Medicine.—Y. N. Kadam, E. G. Jones, W. F. Mason, and J. J. Mulvey.

Midwifery.—Y. N. Kadam, W. F. Mason, R. N. Burton, and W. T. Carrotson.

Medical Jurisprudence.—C. V. Samwell, I. Borrah, W. U. D. Longford, G. N. Groves, T. R. Wilson, H. Shaw, Don A. Jayasinghe, R. McLaren, P. A. O'Brien, and W. T. Carrotson.

SOCIETY OF APOTHECARIES OF LONDON.

THE diploma of the society has been granted to Messrs. W. Burridge, R. F. Jarrett, S. C. Varley, and H. St. H. Vertue.

Medical News.

THE next session of the General Medical Council will commence on Tuesday, November 28th; the President, Sir Donald MacAlister, K.C.B., M.D., will take the chair at 2 p.m.

THE London County Council has appointed Dr. C. H. Pring, Camberwell, to serve as a medical practitioner upon the Insurance Committee for the County of London.

A COURSE of lectures on diseases of the male urethra will be given by Mr. Frank Kidd in the clinical theatre of the London Hospital on Mondays, November 13th, 20th, 27th, and December 4th, at 4 p.m.

AT the meeting of the Royal Anthropological Society on Tuesday next Mr. Aubyn Trevor-Battye will give an address, illustrated by the epidiascope, on the Gurkhas and their country. The meeting will take place at 5 p.m. at 50, Great Russell Street, W.C.

A MEETING to consider the steps to be taken to raise a memorial to the late Sir William Ramsay will be held at University College, London, on Tuesday next, at 4.30 p.m. Lord Rayleigh will preside, and Professor J. Norman Collie will deliver a memorial lecture.

THE Bradshaw lecture before the Royal College of Physicians of London will be delivered on Thursday next by Dr. Hector Mackenzie, whose subject will be exophthalmic goitre. The Horace Dobell lecture will be delivered on November 7th by Dr. H. R. Dean, on the mechanism of the serum reactions. Dr. W. H. R. Rivers will give a second course of FitzPatrick lectures on medicine, magic, and religion, on November 14th and 16th. The lectures are given at 5 p.m. on each day.

THE Department of the Official Receivers in Companies Liquidation of the Board of Trade has notified that the firm of Slack and Brownlow of Manchester and Imperial House, Kingsway, W.C., have become the purchasers of the Berkefeld Filter Company, Limited, and are now carrying it on under the style of the Berkefeld Filter Company (British). The Board of Trade is satisfied that all persons interested in the purchase are purely British, and the business may now be regarded as a British concern. Transactions may be entered into with the Berkefeld Filter Company (British) without infringing the provisions of the Trading with the Enemy Act.

AN association for the study of the internal secretions was formed during the recent meeting of the American Medical Association in Detroit, and will meet annually during subsequent sessions of that association. It proposes to publish a periodical, to maintain circulating libraries, and to establish local groups to hold round-table discussions in clinical medicine, neurology, gynaecology, surgery, pediatrics and paedology, and experimental medicine. Among the members of the organizing committee are Professors L. F. Barker, of Baltimore, and Judson Daland, of Philadelphia. The secretary is Dr. Harrower, of Los Angeles, and the treasurer Dr. W. W. Duke, Waldheim Buildings, Kansas City, Missouri.

ANOTHER course of Chadwick public lectures has been arranged. Professor Stirling gave the first of three lectures on fatigue and its effects on industry and efficiency, at the Royal Society of Arts, Adelphi, on Friday. Dr. Charles Porter will begin a course of three lectures on the health of the future citizen, at the Norwich Museum on November 2nd; Dr. J. C. Nash, county medical officer and chief school officer, Norfolk, will give a lecture on baby saving for the nation, at the Hampstead Central Library on November 20th; and Mr. Paul Waterhouse will give the first of three lectures on architecture in relation to health and welfare, at the Surveyors' Institute, Westminster, on November 30th. The lectures are free, and a programme can be obtained from the Chadwick Trust, 40 (6th), Queen Anne's Chambers, Westminster.

THE Post Office regulations permit the transmission of deleterious liquids or substances only by letter post. Any such liquid or substance must be enclosed in a receptacle, hermetically sealed or otherwise securely closed, which receptacle must be placed in a strong wooden, leather, or metal case in such a way that it cannot shift about, and with a sufficient quantity of some absorbent material (such as sawdust or cotton-wool) so packed about it as absolutely to prevent any possible leakage from the package in the event of damage to the receptacle. The packet so made up must be conspicuously marked "Fragile, with care," and bear the words "Pathological Specimen." A person who sends such liquids or substances contrary to these regulations is liable to prosecution.

THE discussion on the need for improvement in the care of pregnant women, at the meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on Thursday, November 2nd, will, as has already been announced, be opened by Dr. S. G. Moore, M.O.H. Huddersfield. Abstracts of his lectures on infantile mortality and the relative value of measures for its prevention were published in the BRITISH MEDICAL JOURNAL of May 6th and May 13th, 1916, pp. 659 and 693. The discussion will be continued by Dr. Amand Routh, who will speak on the importance of getting all pregnant women under supervision, and affording them the necessary treatment; Dr. Comyns Berkeley, who will speak on the co-operation of medical practitioners and midwives with the local health authorities, and Lady Barrett, M.D., M.S., who will deal with the linking up of all organizations for maternity and child welfare in local health districts.

THE medical profession in Berlin has lately expressed its disapproval of the way in which the authorities have ignored the opinion of doctors on the distribution of food. Apparently not a single medical man has been consulted. It is not, therefore, surprising that the interests of the sick and the mentally deficient have been overlooked, and that facilities for providing them with adequate supplies of nourishing food are lacking. The representatives of the medical profession in Berlin insist on a reorganization of the present methods of distributing milk, cream, butter, and meat among invalids. After August 1st, 1916, the amount of soap and other fatty preparations for washing

was reduced to 50 grams a head a month. As a substitute 250 grams of soap powder may be claimed for each person, but the use of all soft soap is totally prohibited. As a concession to the medical and nursing professions, four soap cards are allowed.

As from April 1st, 1916, glycerine manufacturers were asked to obtain from buyers a guarantee that all medicinal glycerine delivered would be used only for making up *British Pharmacopoeia* or *B. P. Codex* preparations, or where it was prescribed in individual cases, either alone or in combination with other drugs, by a duly qualified medical practitioner. These restrictions were not applied to stocks held by wholesalers or retailers prior to April 1st, but in view of the increased necessity for conserving the supply for the needs of the war, and the possibility that it may be necessary to reduce still further the quantity to be allowed for medicinal purposes, holders of such stocks are now asked to apply the restrictions to them. Such action will directly serve national interests in tending to secure a sufficient supply of glycerine for the general public in those cases where its value for medicinal purposes is of importance.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

THE telegraphic addresses of the BRITISH MEDICAL ASSOCIATION and JOURNAL are: (1) EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard (2) FINANCIAL SECRETARY AND BUSINESS MANAGER Advertisements, etc., *Articulate, Westrand, London;* telephone, 2630, Gerrard. (3) MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

OCTOGENARIAN asks whether the daily use of an ordinary glycerine suppository has been known to produce any injurious results. He has heard that haemorrhoids have been the result of frequent use.

A. A. P. asks to be recommended a preparation of cod-liver oil which is made up with salt instead of sugar, and which is free from nauseating flavour.

*** In the *British Pharmaceutical Codex* and in Martindale's *Extra Pharmacopoeia* formulae are given for emulsions containing solution or elixir of gluside (saccharin) instead of sugar.

INCOME TAX.

R. H. S. M. has for the past six years been in charge of a hospital abroad but returned to England to join the R.A.M.C. and has been an officer of that corps since August 1st. His intention is to return to his appointment abroad as soon as his services in the army are no longer needed. Is he liable to income tax?

*** So far as his army pay is concerned the answer is in the affirmative, inasmuch as tax is payable in respect of every public office or employment and upon every stipend payable out of the revenue of the United Kingdom. It is true that this means offices, etc., which are exercised within the United Kingdom (Pickles *v.* Foster), but this qualification does not assist our correspondent. He is not liable to pay tax on remittances from foreign property—if any—unless he remains in this country for at least six months, and possibly in the special circumstances any technical liability under this head would not be pressed. We may perhaps point out that in calculating the total income of the financial year 1916–17 for purposes of abatement or the fixing of the appropriate rate of tax, income which is not assessable—for example, the earnings of R. H. S. M. before he came to this country—should not be included. This might affect the amount of abatement due to him.

LETTERS, NOTES, ETC.

SCHOOL VICE.

CAPTAIN E. DUKE, M.D., R.A.M.C. (Hove) writes: It appears to me, and has done so for years, that the advice needful for boys may be summed up in three brief sentences: (1) Never allow any boy (or man) to touch you indecently; (2) never touch any boy (or man) indecently; (3) never touch yourself indecently. These cardinal rules should be impressed sanely upon every boy, whether at school or at home.

GASTRO-ENTERITIS DUE TO BACILLUS AERTRYCKE VEL SUIPESTIFER.

DR. J. W. MARTIN (Dumfries) writes with reference to Professor E. J. McWeeney's case of fatal gastro-enteritis (BRITISH MEDICAL JOURNAL, September 30th, p. 451): I treated a somewhat similar case at home of gastro-enteritis six months ago in a lad 17 years of age, a railway clerk. There was vomiting and profuse diarrhoea, which at times was bloody. A bacteriological examination of the stools by the local bacteriologist showed large numbers of a non-lactose fermenting bacillus which gave reaction similar to the paratyphoid group, non-agglutinated by paratyphoid A, B, or Gaertner serum, but serum from the patient did so in dilution of 1 in 1,000. The patient made a slow recovery. This bacillus may be allied to the one described by Professor McWeeney.

FERGUS(S)ON'S SPECULUM.

A CORRESPONDENT, in reference to the paragraphs on this subject in the JOURNAL (March 11th, p. 397, and August 5th, p. 208), points out that, in speaking of his well-known rectal speculum, Sir William Fergusson states that "it may be made in all respects similar to the speculum for the vagina which I devised many years ago, and which is now (1870) in very general use when such a mode of examination is needed" (*A System of Practical Surgery*, fifth edition, 1870, p. 655). Thus the great surgeon claimed it as his own, but it is not clear that it was not in some points a modification of a glass speculum used by Dr. Robert Ferguson.

NOCTURNAL DYSPNOEA ASSOCIATED WITH NASAL OBSTRUCTION.

T. writes: Surgeons have been operating on growing noses after the manner of Killian for more than ten years, a sufficiently long period to be able to give end results and thus enable the physician to advise operation or not—a difficulty at present. One cannot expect much benefit from organotherapy or drugs when the trouble is anatomical. But it is hard to witness healthy young chests gradually becoming crippled without let or hindrance. For sporting purposes men will do a tracheotomy on a hunter or racehorse, and exercise all sorts of ingenuity to prevent its roaring, etc. Is not the child worthy of more effort?

RETRACTION OF THE UTERINE MUSCLE ASSOCIATED WITH OBSTRUCTED LABOUR.

DR. GORDON O. LAMBERT (Reading) writes: I have read with great interest the very instructive article in the JOURNAL of October 14th on retraction of the uterine muscles associated with obstructed labour. The personal experiences of Mr. H. T. Hicks, and the conclusions which he draws from it, are very valuable to those who undertake midwifery practice. One of his statements, however, seems to be not strictly accurate. Perhaps it is the inference naturally drawn from the statement rather than the statement itself which is open to criticism. Mr. Hicks writes: "It will be noticed that I have made no reference to textbooks or papers. I wish only to give a clear clinical account of a condition which I know occurs time after time without being recognized. . . . In one of the latest books on obstetrics this condition is lightly touched upon." I venture to think that Mr. Hicks is hardly just to the authors of several standard textbooks—for example, Galabin (*Manual of Midwifery*), Herman (*Difficult Labour*). In these books the condition is clearly described, under the head of "Bandl's Ring," and every well-educated medical man should be familiar with it in theory and on the watch for its occurrence in cases of obstructed labour. One is inclined to derive hope from Mr. Hicks's statement that "many practitioners may go thirty years without seeing a case of this kind, or never see one at all." Possibly prompt recognition and treatment of obstruction to delivery has greatly reduced the frequency of occurrence of Bandl's ring, or "the retraction ring," during many years past.

FASTING IN HEART DISEASE.

DR. JOHN HADDON (Hawick, Scotland) writes: In 1892 Sir Thomas Lauder Brunton, after careful examination, diagnosed heart disease and warned me against making much exertion. Since then I have learnt that, bad as my heart may be, if I do not eat "too much" or "too often," it seems to work well enough. To-day I have climbed to the top of our highest hill—1,400 ft. above sea level—better than I could do before I became a vegetarian in 1896. I have tried fasting myself and made others fast, and, from experience, I have come to the conclusion that the worse a heart is the more occasion there is for fasting.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.